STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

# NOTICE TO BIDDERS

## AND

# SPECIAL PROVISIONS

**FOR CONSTRUCTION ON STATE HIGHWAY IN SAN DIEGO COUNTY AT VARIOUS LOCATIONS**

**In District 11 On Route 15, 94**

**Under**

| | |
|---|---|
| ***Bid* book dated September 9, 2013** | ***Standard Specifications* dated 2010** |
| **Project plans approved August 5, 2013** | ***Standard Plans* dated 2010** |

**Identified by**

**Contract No. 11-282404**

**11-SD-15, 94-Var**

**Project ID 1100000314**

**Federal-Aid Project**
**NHP-X073(103)E**

## Electronic Advertising Contract

**AADD**

**Bids open Thursday, October 31, 2013**
**Dated September 9, 2013**

**IH**

**********

# SPECIAL NOTICES

**********

- For federal-aid projects, the Department is modifying its DBE program.

# CONTRACT NO. 11-282404

The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

**HIGHWAY**

**REGISTERED CIVIL ENGINEER**

REGISTERED PROFESSIONAL ENGINEER
Marco A. Limon
No. 56710
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

**ELECTRICAL**

**REGISTERED CIVIL ENGINEER**

REGISTERED PROFESSIONAL ENGINEER
Dante C. Buenviaje
No. 64180
Exp. 06-30-15
CIVIL
STATE OF CALIFORNIA

**LANDSCAPE**

**LICENSED LANDSCAPE ARCHITECT**

LICENSED LANDSCAPE ARCHITECT
CATHERINE R. BANNER NO. 4354
SIGNATURE
06-30-15
RENEWAL DATE
DATE
STATE OF CALIFORNIA

# TABLE OF CONTENTS

NOTICE TO BIDDERS ..... 1
BID ITEM LIST ..... 3
SPECIAL PROVISIONS ..... 9
DIVISION I GENERAL PROVISIONS ..... 9
1 GENERAL ..... 9
2 BIDDING ..... 9
5 CONTROL OF WORK ..... 9
9 PAYMENT ..... 10
DIVISION II GENERAL CONSTRUCTION ..... 10
12 TEMPORARY TRAFFIC CONTROL ..... 10
13 WATER POLLUTION CONTROL ..... 20
14 ENVIRONMENTAL STEWARDSHIP ..... 21
15 EXISTING FACILITIES ..... 24
DIVISION III GRADING ..... 25
20 LANDSCAPE ..... 25
DIVISION V SURFACINGS AND PAVEMENTS ..... 33
39 HOT MIX ASPHALT ..... 33
DIVISION VII DRAINAGE ..... 34
68 SUBSURFACE DRAINS ..... 34
DIVISION IX TRAFFIC CONTROL FACILITIES ..... 37
86 ELECTRICAL SYSTEMS ..... 37
DIVISION X MATERIALS ..... 41
87 MATERIALS—GENERAL ..... 41
88 GEOSYNTHETICS ..... 43
REVISED STANDARD SPECIFICATIONS APPLICABLE TO THE 2010 EDITION OF THE STANDARD SPECIFICATIONS ..... 45

# STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

| | |
|---|---|
| A10A | Abbreviations (Sheet 1 of 2) |
| A10B | Abbreviations (Sheet 2 of 2) |
| A10C | Lines and Symbols (Sheet 1 of 3) |
| A10D | Lines and Symbols (Sheet 2 of 3) |
| A10E | Lines and Symbols (Sheet 3 of 3) |
| A62D | Excavation and Backfill - Concrete Pipe Culverts |
| A62DA | Excavation and Backfill - Concrete Pipe Culverts - Indirect Design Method |
| A62E | Excavation and Backfill - Cast-In-Place Reinforced Concrete Box and Arch Culverts |
| A62F | Excavation and Backfill - Metal and Plastic Culverts |
| A76A | Concrete Barrier Type 60 |
| A76B | Concrete Barrier Type 60 |
| A85 | Chain Link Fence |
| A85A | Chain Link Fence Details |
| RSP A85B | Chain Link Fence Details |
| A87B | Hot Mix Asphalt Dikes |
| D72 | Drainage Inlets |
| RSP D73 | Drainage Inlets |
| D73A | Drainage Inlets (Precast) |
| D74B | Drainage Inlets |
| RSP D77B | Grate Details No. 2 |
| D94A | Metal and Plastic Flared End Sections |
| D94B | Concrete Flared End Sections |
| D97I | Corrugated Polyvinyl Chloride Pipe with Smooth Interior - Standard and Positive Joints |
| H1 | Landscape and Erosion Control - Abbreviations |
| H2 | Landscape - Symbols |
| H3 | Landscape Details |
| H4 | Landscape Details |
| H5 | Landscape Details |
| H6 | Landscape Details |
| H7 | Landscape Details |

| | |
|---|---|
| H9 | Landscape Details |
| H10 | Irrigation Controller Enclosure Cabinet |
| T1A | Temporary Crash Cushion, Sand Filled (Unidirectional) |
| T1B | Temporary Crash Cushion, Sand Filled (Bidirectional) |
| T2 | Temporary Crash Cushion, Sand Filled (Shoulder Installations) |
| T3A | Temporary Railing (Type K) |
| T3B | Temporary Railing (Type K) |
| RSP T10 | Traffic Control System for Lane Closure on Freeways and Expressways |
| RSP T10A | Traffic Control System for Lane Closures on Freeways and Expressways |
| RSP T14 | Traffic Control System for Ramp Closure |
| T56 | Temporary Water Pollution Control Details (Temporary Fiber Roll) |
| T57 | Temporary Water Pollution Control Details (Temporary Check Dam) |
| T58 | Temporary Water Pollution Control Details (Temporary Construction Entrance) |
| T59 | Temporary Water Pollution Control Details (Temporary Concrete Washout Facility) |
| T61 | Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection) |
| T62 | Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection) |
| T63 | Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection) |
| T64 | Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection) |
| RS1 | Roadside Signs, Typical Installation Details No. 1 |
| RS2 | Roadside Signs - Wood Post, Typical Installation Details No. 2 |
| RS4 | Roadside Signs, Typical Installation Details No. 4 |
| S93 | Framing Details for Framed Single Sheet Aluminum Signs, Rectangular Shape |
| S94 | Roadside Framed Single Sheet Aluminum Signs, Rectangular Shape |
| S95 | Roadside Single Sheet Aluminum Signs, Diamond Shape |
| ES-1A | Electrical Systems (Legend, Notes and Abbreviations) |
| ES-1B | Electrical Systems (Legend, Notes and Abbreviations) |
| ES-1C | Electrical Systems (Legend, Notes and Abbreviations) |
| ES-5A | Electrical Systems (Detectors) |
| ES-5B | Electrical Systems (Detectors) |
| ES-5D | Electrical Systems (Curb Termination and Handhole) |
| ES-7B | Electrical Systems (Signal and Lighting Standard - Type 1 and Equipment Numbering) |
| ES-7M | Electrical Systems (Signal and Lighting Standard - Detail No. 1) |
| RSP ES-8A | Electrical Systems (Pull Box) |
| RSP ES-8B | Electrical Systems (Traffic Rated Pull Box) |

| | |
|---|---|
| ES-11 | Electrical Systems (Foundation Installations) |
| ES-13A | Electrical Systems (Splicing Details) |

## CANCELED STANDARD PLANS LIST

The standard plan sheets listed below are canceled and not applicable to this contract.

| | |
|---|---|
| B3-1 | Canceled on April 20, 2012 |
| B3-2 | Canceled on April 20, 2012 |
| B3-3 | Canceled on April 20, 2012 |
| B3-4 | Canceled on April 20, 2012 |
| B3-7 | Canceled on April 20, 2012 |
| B3-8 | Canceled on April 20, 2012 |
| ES-8 | Canceled on January 20, 2012 |
| ES-10 | Canceled on July 20, 2012 |

# NOTICE TO BIDDERS

Bids open Thursday, October 31, 2013

Dated September 9, 2013

General work description: Construct sand filters and infiltration devices.

The Department will receive sealed bids for CONSTRUCTION ON STATE HIGHWAY IN SAN DIEGO COUNTY AT VARIOUS LOCATIONS.

District-County-Route-Post Mile: 11-SD-15, 94-Var

Contract No. 11-282404

The Contractor must have either a Class A license or a combination of Class C licenses which constitutes a majority of the work.

The DBE Contract goal is 11 percent.

Federal-aid project no.:

NHP-X073(103)E

Bids must be on a unit price basis.

Complete the work, excluding plant establishment work, within 175 working days.

Complete the work, including plant establishment work, within 425 working days.

Complete the plant establishment work within 250 working days.

The estimated cost of the project is $3,310,000.

No prebid meeting is scheduled for this project.

The Department will receive bids until 2:00 p.m. on the bid open date at 3347 Michelson Drive, Suite 100, Irvine, CA 92612-1692. Bids received after this time will not be accepted.

The Department will open and publicly read the bids at the above location immediately after the specified closing time.

District office addresses are provided in the *Standard Specifications*.

Present bidders' inquiries to the Department and view the Department's responses at:

http://www.dot.ca.gov/hq/esc/oe/project_status/bid_inq.html

Questions about alleged patent ambiguity of the plans, specifications, or estimate must be asked before bid opening. After bid opening, the Department does not consider these questions as bid protests.

Submit your bid with bidder's security equal to at least 10 percent of the bid.

Prevailing wages are required on this Contract. The Director of the California Department of Industrial Relations determines the general prevailing wage rates. Obtain the wage rates at the DIR Web site, http://www.dir.ca.gov, or from the Department's Labor Compliance Office of the district in which the work is located.

The federal minimum wage rates for this Contract as determined by the United States Secretary of Labor are available at http://www.dot.ca.gov/hq/esc/oe/federal-wages.

If the minimum wage rates as determined by the United States Secretary of Labor differs from the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors must not pay less than the higher wage rate. The Department does not accept lower State wage rates not specifically included in the federal minimum wage determinations. This includes helper, or other classifications based on hours of experience, or any other classification not appearing in the federal wage determinations. Where federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors must not pay less than the federal minimum wage rate that most closely approximates the duties of the employees in question.

The Department has made available Notices of Suspension and Proposed Debarment from the Federal Highway Administration. For a copy of the notices, go to http://www.dot.ca.gov/hq/esc/oe/contractor_info. Additional information is provided in the Excluded Parties List System at https://www.epls.gov.

Department of Transportation

D11MAL

## BID ITEM LIST

| Item No. | Item Code | Item Description | Unit of Measure | Estimated Quantity |
|---|---|---|---|---|
| 1 | 070030 | LEAD COMPLIANCE PLAN | LS | LUMP SUM |
| 2 | 120090 | CONSTRUCTION AREA SIGNS | LS | LUMP SUM |
| 3 | 120100 | TRAFFIC CONTROL SYSTEM | LS | LUMP SUM |
| 4 | 120199 | TRAFFIC PLASTIC DRUM | EA | 44 |
| 5 | 128651 | PORTABLE CHANGEABLE MESSAGE SIGN (EA) | EA | 2 |
| 6 | 129000 | TEMPORARY RAILING (TYPE K) | LF | 2,600 |
| 7 | 129100 | TEMPORARY CRASH CUSHION MODULE | EA | 78 |
| 8 | 130100 | JOB SITE MANAGEMENT | LS | LUMP SUM |
| 9 | 130300 | PREPARE STORM WATER POLLUTION PREVENTIONPLAN | LS | LUMP SUM |
| 10 | 130330 | STORM WATER ANNUAL REPORT | EA | 1 |
| 11 | 130505 | MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL) | EA | 1 |
| 12 | 130620 | TEMPORARY DRAINAGE INLET PROTECTION | EA | 16 |
| 13 | 130640 | TEMPORARY FIBER ROLL | LF | 2,910 |
| 14 | 130710 | TEMPORARY CONSTRUCTION ENTRANCE | EA | 7 |
| 15 | 130900 | TEMPORARY CONCRETE WASHOUT | LS | LUMP SUM |
| 16 | 141000 | TEMPORARY FENCE (TYPE ESA) | LF | 3,640 |
| 17 | 150203 | ABANDON CULVERT (EA) | EA | 6 |
| 18 | 150605 | REMOVE FENCE | EA | 76 |
| 19 | 150685 | REMOVE IRRIGATION FACILITY | LS | LUMP SUM |
| 20 | 152320 | RESET ROADSIDE SIGN | EA | 4 |

| Item No. | Item Code | Item Description | Unit of Measure | Estimated Quantity |
|---|---|---|---|---|
| 21 | 153103 | COLD PLANE ASPHALT CONCRETE PAVEMENT | SQYD | 43 |
| 22 | 153215 | REMOVE CONCRETE (CURB AND GUTTER) | LF | 85 |
| 23 | 026545 | REMOVE CONCRETE DITCH | LF | 120 |
| 24 | 153221 | REMOVE CONCRETE BARRIER | LF | 240 |
| 25 | 155232 | SAND BACKFILL | CY | 60 |
| 26 | 160102 | CLEARING AND GRUBBING (LS) | LS | LUMP SUM |
| 27 | 190101 | ROADWAY EXCAVATION | CY | 2,890 |
| 28 | 190105 | ROADWAY EXCAVATION (TYPE Z-2) (AERIALLY DEPOSITED LEAD) | CY | 670 |
| 29 (F) | 192001 | STRUCTURE EXCAVATION | CY | 118 |
| 30 | 192053 | STRUCTURE EXCAVATION (TYPE Z-2) (AERIALLY DEPOSITED LEAD) | CY | 290 |
| 31 | 026546 | DITCH EXCAVATION (TYPE Z-2) (AERIALLY DEPOSITED LEAD) | CY | 550 |
| 32 | 200002 | ROADSIDE CLEARING | LS | LUMP SUM |
| 33 | 200052 | PRUNE EXISTING PLANTS | LS | LUMP SUM |
| 34 | 202004 | IRON SULFATE (LB) | LB | 3,880 |
| 35 | 202011 | MULCH | CY | 320 |
| 36 | 202035 | FERTILIZER (PACKET) | EA | 400 |
| 37 | 202036 | SLOW RELEASE OR CONTROLLED RELEASE FERTILIZER | LB | 3,070 |
| 38 (F) | 204008 | PLANT (GROUP H) | EA | 440,923 |
| 39 | 204011 | PLANT (GROUP K) | EA | 12 |
| 40 | 204022 | PLANT (GROUP Z) | EA | 5 |

| Item No. | Item Code | Item Description | Unit of Measure | Estimated Quantity |
|---|---|---|---|---|
| 41 | 204036 | PLANT (GROUP B) | EA | 64 |
| 42 | 204038 | PLANT (GROUP U) | EA | 29 |
| 43 | 026547 | NATIVE SOD | SQFT | 14,000 |
| 44 | 204096 | MAINTAIN EXISTING PLANTED AREAS | LS | LUMP SUM |
| 45 | 204099 | PLANT ESTABLISHMENT WORK | LS | LUMP SUM |
| 46 | 206400 | CHECK AND TEST EXISTING IRRIGATION FACILITIES | LS | LUMP SUM |
| 47 | 206560 | CONTROL AND NEUTRAL CONDUCTORS | LS | LUMP SUM |
| 48 | 206602 | 1" ELECTRIC REMOTE CONTROL VALVE | EA | 6 |
| 49 | 206604 | 1 1/2" ELECTRIC REMOTE CONTROL VALVE | EA | 30 |
| 50 | 206751 | 12 STATION IRRIGATION CONTROLLER (WALL MOUNTED) | EA | 2 |
| 51 | 206752 | 18 STATION IRRIGATION CONTROLLER (WALL MOUNTED) | EA | 1 |
| 52 | 208301 | IRRIGATION CONTROLLER ENCLOSURE CABINET | EA | 3 |
| 53 | 208310 | IRRIGATION SLEEVE | LF | 150 |
| 54 | 208415 | CERTIFY BACKFLOW PREVENTERS | LS | LUMP SUM |
| 55 | 208421 | BACKFLOW PREVENTER ASSEMBLY ENCLOSURE | EA | 5 |
| 56 | 208426 | 2" BACKFLOW PREVENTER ASSEMBLY | EA | 4 |
| 57 | 208465 | SPRINKLER (TYPE A-5) | EA | 110 |
| 58 | 208467 | SPRINKLER (TYPE A-7) | EA | 160 |
| 59 | 208468 | SPRINKLER (TYPE A-8) | EA | 11 |
| 60 | 208471 | SPRINKLER (TYPE B-1) | EA | 52 |

| Item No. | Item Code | Item Description | Unit of Measure | Estimated Quantity |
|---|---|---|---|---|
| 61 | 208480 | SPRINKLER (TYPE C-2 MOD) | EA | 92 |
| 62 | 208575 | 2" GATE VALVE | EA | 9 |
| 63 | 208576 | 2 1/2" GATE VALVE | EA | 7 |
| 64 (F) | 208595 | 1" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE) | LF | 7,139 |
| 65 (F) | 208596 | 1 1/4" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE) | LF | 4,478 |
| 66 (F) | 208597 | 1 1/2" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE) | LF | 2,237 |
| 67 (F) | 208598 | 2" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE) | LF | 2,233 |
| 68 (F) | 208599 | 2 1/2" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE) | LF | 3,692 |
| 69 (F) | 208600 | 3" PLASTIC PIPE (SCHEDULE 40) (SUPPLY LINE) | LF | 1,049 |
| 70 | 026548 | TEMPORARY IRRIGATION SUPPLY LINE | LF | 250 |
| 71 | 210110 | IMPORTED TOPSOIL (CY) | CY | 460 |
| 72 | 210350 | FIBER ROLLS | LF | 2,910 |
| 73 | 210600 | COMPOST | SQFT | 14,000 |
| 74 | 210630 | INCORPORATE MATERIALS | SQFT | 14,000 |
| 75 | 260203 | CLASS 2 AGGREGATE BASE (CY) | CY | 170 |
| 76 | 374002 | ASPHALTIC EMULSION (FOG SEAL COAT) | TON | 0.4 |
| 77 | 390132 | HOT MIX ASPHALT (TYPE A) | TON | 270 |
| 78 | 394076 | PLACE HOT MIX ASPHALT DIKE (TYPE E) | LF | 40 |
| 79 | 397005 | TACK COAT | TON | 0.4 |
| 80 (F) | 510502 | MINOR CONCRETE (MINOR STRUCTURE) | CY | 77.5 |

| Item No. | Item Code | Item Description | Unit of Measure | Estimated Quantity |
|---|---|---|---|---|
| 81 | 620060 | 12" ALTERNATIVE PIPE CULVERT | LF | 360 |
| 82 | 620100 | 18" ALTERNATIVE PIPE CULVERT | LF | 180 |
| 83 | 620140 | 24" ALTERNATIVE PIPE CULVERT | LF | 490 |
| 84 | 620180 | 30" ALTERNATIVE PIPE CULVERT | LF | 50 |
| 85 | 680902 | 6" PERFORATED PLASTIC PIPE UNDERDRAIN | LF | 650 |
| 86 | 026549 | FLAP GATE | EA | 22 |
| 87 | 026550 | INFILTRATION SYSTEM | EA | 4 |
| 88 (F) | 026551 | CLASS 4 PERMEABLE MATERIAL (BLANKET) | CY | 69.1 |
| 89 (F) | 026552 | CLASS 5 PERMEABLE MATERIAL | CY | 77.8 |
| 90 | 026553 | JACKED 36" WELDED STEEL PIPE CASING | LF | 30 |
| 91 | 705315 | 24" ALTERNATIVE FLARED END SECTION | EA | 2 |
| 92 | 707467 | 36" REINFORCED CONCRETE PIPE RISER | LF | 43 |
| 93 (F) | 721028 | ROCK SLOPE PROTECTION (NO. 2, METHOD B) (CY) | CY | 2.2 |
| 94 | 721431 | CONCRETE (CONCRETE APRON) | CY | 3 |
| 95 (F) | 722020 | GABION | CY | 22.6 |
| 96 | 026554 | FILTER FABRIC CLASS D | SQYD | 390 |
| 97 (F) | 750001 | MISCELLANEOUS IRON AND STEEL | LB | 11,355 |
| 98 | 800100 | TEMPORARY FENCE | LF | 290 |
| 99 | 800360 | CHAIN LINK FENCE (TYPE CL-6) | LF | 76 |
| 100 | 839701 | CONCRETE BARRIER (TYPE 60) | LF | 250 |

| Item No. | Item Code | Item Description | Unit of Measure | Estimated Quantity |
|---|---|---|---|---|
| 101 | 860090 | MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION | LS | LUMP SUM |
| 102 | 860797 | ELECTRIC SERVICE (IRRIGATION) | LS | LUMP SUM |
| 103 | 861503 | MODIFY LIGHTING | LS | LUMP SUM |
| 104 | 999990 | MOBILIZATION | LS | LUMP SUM |

# SPECIAL PROVISIONS

## DIVISION I GENERAL PROVISIONS

### 1 GENERAL

**Add to section 1-1.01:**

**Bid Items and Applicable Sections**

| Item code | Item description | Applicable section |
|---|---|---|
| 026545 | REMOVE CONCRETE DITCH | 15 |
| 026546 | DITCH EXCAVATION (TYPE Z-2) (AERIALLY DEPOSITED LEAD) | 19 |
| 026547 | NATIVE SOD | 20 |
| 026548 | TEMPORARY IRRIGATION SUPPLY LINE | 20 |
| 026549 | FLAP GATE | 68 |
| 026550 | INFILTRATION SYSTEM | 68 |
| 026551 | CLASS 4 PERMEABLE MATERIAL (BLANKET) | 68 |
| 026552 | CLASS 5 PERMEABLE MATERIAL | 68 |
| 026553 | JACKED 36" WELDED STEEL PIPE CASING | 70 |
| 026554 | FILTER FABRIC CLASS D | 72 |

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

### 2 BIDDING

**Add to section 2-1.06B:**

The Department makes the following supplemental project information available:

**Supplemental Project Information**

| Means | Description |
|---|---|
| Included in *Information Handout* | Geotechnical Design Report dated 7/2/12 |

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### 5 CONTROL OF WORK

**Add to section 5-1.20C:**

**5-1.20C(1) General**

This project does not include work on the railroad property, but a railroad is shown on the general plan sheet within the project limits. Do not trespass on the Metropolitan Transit System (MTS) railroad property on Route 15.

You are responsible for all damages to railroad track, structure, embankment and appurtenances, and to railroad equipment operating on such track, resulting from your operations.

Conduct your operations in a manner that prevents debris, or any other material, from falling on the tracks and railroad right of way.

**5-1.20C(2) Emergency Hotline**

Your personnel working near, below or above railroad tracks must have within their immediate reach the Emergency Hotline Number (800) 848-8715, Option 1, to report incidents along railroad tracks. This line is monitored 24 hours a day, 7 days a week.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 9 PAYMENT

**Add to section 9-1.16C:**

The following items are eligible for progress payment even if they are not incorporated into the work:

1. Backflow Preventers
2. Backflow Preventer Assembly Enclosures
3. Control and Neutral Conductors
4. Irrigation Controller Enclosure Cabinets
5. Irrigation Controllers
6. Pipe (Irrigations Systems)
7. Sprinklers
8. Culvert Pipe
9. Miscellaneous Iron and Steel

^^^^^^^^^^^^^^^^^^^

The background on construction project funding signs must be Type II retroreflective sheeting on the Authorized Material List for signing and delineation materials.

The legend must be retroreflective, except for nonreflective black letters and numerals. The colors blue and orange must comply with PR Color no. 3 and no. 6, respectively, as specified in the Federal Highway Administration's *Color Tolerance Chart*.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

The legend for the type of project on construction project funding signs must read as follows:

ROADSIDE WORK

The legend for the types of funding on construction project funding signs must read as follows and in the following order:

FEDERAL HIGHWAY TRUST FUNDS

STATE HIGHWAY FUNDS

The Engineer will provide the year of completion for the legend on construction project funding signs. Furnish and install a sign overlay for the year of completion within 10 working days of notification.

The size of the legend on construction project funding signs must be as described. Do not add any additional information unless authorized.

**12-2.03 CONSTRUCTION**

Install 4 Type 2 construction project funding signs at the locations designated by the Engineer before starting major work activities visible to highway users.

When authorized, remove and dispose of construction project funding signs upon completion of the project.

**12-2.04 PAYMENT**

Not Used

**Add to section 12-3.12C:**

Start displaying the message on the portable changeable message sign 30 minutes before closing the lane.

Place the portable changeable message sign in advance of the 1st warning sign for each:

1. Stationary lane closure
2. Off-ramp closure
3. Connector closure
4. Shoulder closure

**Add to section 12-4.02A:**

If work including installing, maintaining, and removing Type K temporary railing is to be performed within 6 feet of the adjacent traffic lane, close the adjacent traffic lane.

Except as listed above, closure of the adjacent traffic lane is not required for installing, maintaining, and removing traffic control devices.

Designated holidays are as shown in the following table:

**Designated Holidays**

| Holiday | Date observed |
|---|---|
| New Year's Day | January 1st |
| Washington's Birthday | 3rd Monday in February |
| Memorial Day | Last Monday in May |
| Independence Day | July 4th |
| Labor Day | 1st Monday in September |
| Veterans Day | November 11th |
| Thanksgiving Day | 4th Thursday in November |
| Christmas Day | December 25th |

If a designated holiday falls on a Sunday, the following Monday is a designated holiday. If November 11th falls on a Saturday, the preceding Friday is a designated holiday.

Freeway closure charts are for constructing sand filters and infiltration devices, and other authorized work.

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

If work vehicles or equipment are parked within 6 feet of a traffic lane, close the shoulder area as shown.

If a connector closure is required within the limits of a freeway lane closure, complete the work on the connector first. Then, complete the work on the freeway traveled way necessary to ensure safe passage of traffic between the connector and open freeway lanes. Complete the remaining work only after reopening the connector.

**Add to section 12-4.03:**

For each 10-minute interval or fraction thereof past the time specified to reopen the closure, the Department deducts the amount for damages per interval shown below. Damages are limited to 5 percent of the total bid per occurrence. Damages are not assessed if the Engineer orders the closure to remain in place beyond the scheduled pickup time.

| Type of facility | Route or segment | Period | Damages/interval ($) |
|---|---|---|---|
| Connector | WB 94 Conn to SB 15 | 1st half hour<br>2nd half hour<br>2nd hour and beyond | $1,450 / 10 minutes<br>$2,200 / 10 minutes<br>$2,900 / 10 minutes |

**Replace "Reserved" in section 12-4.04 with:**

**Lane Closure Restriction for Designated Holidays and Special Days**

| Thu | Fri | Sat | Sun | Mon | Tues | Wed | Thu | Fri | Sat | Sun |
|---|---|---|---|---|---|---|---|---|---|---|
| x | **H** xx | xx | xx | | | | | | | |
| | **SD** xx | | | | | | | | | |
| x | xx | **H** xx | xx | | | | | | | |
| | | **SD** xx | | | | | | | | |
| | x | xx | **H** xx | xx | | | | | | |
| | | | **SD** xx | | | | | | | |
| | x | xx | xx | **H** xx | xxx | | | | | |
| | x | xx | xx | **SD** xx | xxx | | | | | |
| | | | | x | **H** xx | | | | | |
| | | | | x | **SD** xx | | | | | |
| | | | | | x | **H** xx | | | | |
| | | | | | | **SD** xx | | | | |
| | | | | | | x | **H** xx | xx | xx | xx |
| | | | | | | | **SD** xx | | | |

Legend:

| | |
|---|---|
| | Refer to lane requirement charts |
| x | The full width of the traveled way must be open for use by traffic after 1200. |
| xx | The full width of the traveled way must be open for use by traffic. |
| xxx | The full width of the traveled way must be open for use by traffic until 0500. |
| **H** | Designated holiday |
| **SD** | Special day |

**Replace "Reserved" in section 12-4.05B with:**

**Chart no. B1**
**Freeway/Expressway Lane Requirements**

| County: SD | Route/Direction: 15/SB | PM: 1.97 – 1.48 |
|---|---|---|

Closure limits: 0.11 Mi. S. of Las Chollas Cr. to Imperial Ave. OH

| From hour to hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mondays through Thursdays | S | S | S | S | S | | | | S | S | S | S | S | S | S | | | | | | | S | S | S | |
| Fridays | S | S | S | S | S | | | | S | S | S | S | S | S | S | | | | | | | | | | |
| Saturdays | | | | | | S | S | S | S | S | S | S | S | S | S | S | | | | | | | | | |
| Sundays | | | | | | S | S | S | S | S | S | S | S | S | S | S | | | | | | S | S | S | |

Legend:

| | |
|---|---|
| S | Shoulder closure allowed (right / left) |
| | Work allowed within the highway where shoulder or lane closure is not required |

REMARKS:

**Replace "Reserved" in section 12-4.05D with:**

**Chart no. D1**
**Complete Connector Closure Hours/Connector Lane Requirements**

| County: SD | Route/Direction: 94 / EB | PM: 3.127 |
|---|---|---|

Closure limits: EB 94 Connector to NB 15

| From hour to hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mondays through Thursdays | C | C | C | C | C | | | | | | | | | | | | | | | | | | C | C | |
| Fridays | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | |
| Saturdays | | | | C | C | C | C | | | | | | | | | | | | | | | | | | |
| Sundays | | | | C | C | C | C | C | C | C | | | | | | | | | | | | C | C | C | |

Legend:

| | |
|---|---|
| C | Connector may be closed completely |
| | Work allowed within the highway where shoulder or lane closure is not required |

REMARKS:

No other closure that conflicts with or shares any elements of the following detour will be permitted.

**Detour EB 94 Conn. to NB 15**
Detour EB 94 Conn. to NB 15 traffic via easterly on Rte. 94 to EB 94 Conn. to SB 15, thence southerly on Rte. 15 to SB 15 Off-ramp to Market St., thence easterly on Market St. to NB 15 On-ramp from Market St.

Place a PCMS (Portable Changeable Message Sign) on EB 94 at a location at the discretion of Construction Field Personnel - warning the public of the ramp closure / detour ahead.

**Chart no. D2**
**Complete Connector Closure Hours/Connector Lane Requirements**

| County: SD | Route/Direction: 94 / WB | PM: 3.133 |
|---|---|---|

Closure limits: WB 94 Connector to SB 15

| From hour to hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mondays through Thursdays | C | C | C | C | C | | | | | | | | | | | | | | | | | | C | C | |
| Fridays | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | |
| Saturdays | | | | C | C | C | C | | | | | | | | | | | | | | | | | | |
| Sundays | | | | C | C | C | C | C | | | | | | | | | | | | | | | C | C | |

Legend:

| | |
|---|---|
| C | Connector may be closed completely |
| | Work allowed within the highway where shoulder or lane closure is not required |

REMARKS:

No other closure that conflicts with or shares any elements of the following detour will be permitted.

**Detour WB 94 Conn. to SB 15**
Detour WB 94 Conn. to SB 15 traffic via westerly on Rte. 94 to WB 94 Off-ramp to 32nd St./Broadway, thence southerly on 32nd St. to EB 94 On-ramp from 32nd St., thence easterly on Rte. 94 to EB 94 Conn. to SB 15.

Place a PCMS (Portable Changeable Message Sign) on WB 94 at a location at the discretion of Construction Field Personnel - warning the public of the ramp closure / detour ahead.

**Replace "Reserved" in section 12-4.05E with:**

**Chart no. E1**
**Complete Ramp Closure Hours/Ramp Lane Requirements**

| County: SD | Route/Direction: 15/SB | PM: 1.819 |
|---|---|---|

Closure limits: SB 15 Off-ramp to Market St.

| From hour to hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mondays through Thursdays | C | C | C | C | C | | | | | | | | | | | | | | | | | C | C | C | |
| Fridays | C | C | C | C | C | | | | | | | | | | | | | | | | | | | | |
| Saturdays | | | | C | C | C | C | C | | | | | | | | | | | | | | | | | |
| Sundays | | | | C | C | C | C | C | C | C | | | | | | | | | | | | C | C | C | |

Legend:

| | |
|---|---|
| C | Ramp may be closed completely |
| | Work allowed within the highway where shoulder or lane closure is not required |

REMARKS:

NOTE: When an Off-ramp is closed completely, place a PCMS (Portable Changeable Message Sign) in the direction of travel allowing the traffic the option to use the preceding Off-ramp and warning them of the ramp closure ahead.

**Chart no. E2**
**Complete Ramp Closure Hours/Ramp Lane Requirements**

| County: SD | Route/Direction: 94/EB | PM: 2.259<br>2.631 |
|---|---|---|

Closure limits: EB 94 Off-ramp to 28th St.
EB 94 On-ramp from 32nd St.

| From hour to hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mondays through Thursdays | C | C | C | C | C | | | | | C | C | C | C | C | C | C | | | | | | C | C | C | |
| Fridays | C | C | C | C | C | | | | | C | C | C | C | C | C | C | | | | | | | | | |
| Saturdays | | | | C | C | C | C | C | C | C | C | | | | | | | | | | | | | | |
| Sundays | | | | C | C | C | C | C | C | C | C | | | | | | | | | | | C | C | C | |

Legend:

| | |
|---|---|
| C | Ramp may be closed completely |
| | Work allowed within the highway where shoulder or lane closure is not required |

REMARKS:

**Chart no. E3**
**Complete Ramp Closure Hours/Ramp Lane Requirements**

| County: SD | Route/Direction: 94/WB | PM: 2.266 |
|---|---|---|

Closure limits: WB 94 On-ramp from 28th St.

| From hour to hour | 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mondays through Thursdays | C | C | C | C | C | | | | C | C | C | C | C | C | C | C | | | | | | C | C | C | |
| Fridays | C | C | C | C | C | | | | C | C | C | C | C | C | C | C | | | | | | | | | |
| Saturdays | | | | C | C | C | C | C | C | C | C | | | | | | | | | | | | | | |
| Sundays | | | | C | C | C | C | C | C | C | C | | | | | | | | | | | C | C | C | |

Legend:

| | |
|---|---|
| C | Ramp may be closed completely |
| | Work allowed within the highway where shoulder or lane closure is not required |

REMARKS:

**Replace section 12-5 with:**

## 12-5 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

### 12-5.01 GENERAL

Section 12-5 includes specifications for closing traffic lanes, ramps, or a combination, with stationary lane closures on multilane highways. The traffic control system for a lane closure or a ramp closure must comply with the details shown.

Traffic control system includes signs.

### 12-5.02 MATERIALS

Not Used

### 12-5.03 CONSTRUCTION

Each vehicle used to place, maintain, and remove components of a traffic control system on a multilane highway must be equipped with a Type II flashing arrow sign that must be in operation whenever the vehicle is being used for placing, maintaining, or removing the components. Vehicles equipped with a Type II flashing arrow sign not involved in placing, maintaining, or removing the components if operated within a stationary-type lane closure must display only the caution display mode. The sign must be controllable by the operator of the vehicle while the vehicle is in motion. If a flashing arrow sign is required for a lane closure, the flashing arrow sign must be operational before the lane closure is in place.

For multilane freeways and expressways, do not place the traffic cones shown to be placed transversely across closed traffic lanes and shoulders.

Whenever components of the traffic control system are displaced or cease to operate or function as specified from any cause, immediately repair the components to the original condition or replace the components and restore the components to the original location.

For a stationary lane closure, ramp closure, or a combination, made only for the work period, remove the components of the traffic control system from the traveled way and shoulder, except for portable delineators placed along open trenches or excavation adjacent to the traveled way at the end of each work period. You may store the components at selected central locations designated by the Engineer within the limits of the highway.

### 12-5.04 PAYMENT

Traffic control system for lane closure is paid for as traffic control system.

The requirements in section 4-1.05 for payment adjustment do not apply to traffic control system. Adjustments in compensation for traffic control system will be made for an increase or decrease in traffic control work if ordered and will be made on the basis of the cost of the necessary increased or decreased traffic control. The adjustment will be made on a force account basis for increased work and estimated on the same basis in the case of decreased work.

A traffic control system required by change order work is paid for as a part of the change order work.

**Replace section 12-8 with:**

## 12-8 TEMPORARY PAVEMENT DELINEATION

### 12-8.01 GENERAL

Section 12-8 includes specifications for placing, applying, maintaining, and removing temporary pavement delineation.

Painted traffic stripe used for temporary delineation must comply with section 84-3. Apply 1 or 2 coats.

Temporary signing for no–passing zones must comply with section 12-3.06.

### 12-8.02 MATERIALS

#### 12-8.02A General

Not Used

#### 12-8.02B Temporary Lane Line and Centerline Delineation

Temporary pavement markers must be the same color as the lane line or centerline markers being replaced. Temporary pavement markers must be one of the temporary pavement markers on the Authorized Material List for short-term day or night use, 14 days or less, or long-term day or night use, 180 days or less.

#### 12-8.02C Temporary Edge Line Delineation

Temporary, removable, construction-grade striping and pavement marking tape must be one of the types on the Authorized Material List. Apply temporary, removable, construction-grade striping and pavement marking tape under the manufacturer's instructions.

### 12-8.03 CONSTRUCTION

#### 12-8.03A General

Whenever work activities obliterate pavement delineation, place temporary or permanent pavement delineation before opening the traveled way to traffic. Place lane line and centerline pavement delineation for traveled ways open to traffic. On multilane roadways, freeways, and expressways, place edge line delineation for traveled ways open to traffic.

Establish the alignment for temporary pavement delineation, including required lines or markers. Surfaces to receive an application of paint or removable traffic tape must be dry and free of dirt and loose material. Do not apply temporary pavement delineation over existing pavement delineation or other temporary pavement delineation. Maintain temporary pavement delineation until it is superseded or you replace it with a new striping detail of temporary pavement delineation or permanent pavement delineation.

Place temporary pavement delineation on or adjacent to lanes open to traffic for a maximum of 14 days. Before the end of the 14 days, place the permanent pavement delineation. If the permanent pavement delineation is not placed within the 14 days, replace the temporary pavement markers with additional temporary pavement delineation equivalent to the striping detail specified for the permanent pavement delineation for the area. The Department does not pay for the additional temporary pavement delineation.

When the Engineer determines the temporary pavement delineation is no longer required for the direction of traffic, remove the markers, underlying adhesive, and removable traffic tape from the final layer of surfacing and from the existing pavement to remain in place. Remove temporary pavement delineation that conflicts with any subsequent or new traffic pattern for the area.

**12-8.03B Temporary Lane Line and Centerline Delineation**

Whenever lane lines or centerlines are obliterated, the minimum lane line and centerline delineation must consist of temporary pavement markers placed longitudinally at intervals not exceeding 24 feet. The temporary pavement markers must be temporary pavement markers on the Authorized Material List for short-term day or night use, 14 days or less, or long-term day or night use, 180 days or less. Place temporary pavement markers under the manufacturer's instructions. Cement the markers to the surfacing with the adhesive recommended by the manufacturer, except do not use epoxy adhesive to place pavement markers in areas where removal of the markers will be required.

For temporary lane line or centerline delineation consisting entirely of temporary pavement markers, place the markers longitudinally at intervals not exceeding 24 feet.

**12-8.03C Temporary Edge Line Delineation**

Whenever edge lines are obliterated on multilane roadways, freeways, and expressways, place edge line delineation for that area adjacent to lanes open to traffic consisting of (1) solid, 4-inch wide traffic stripe tape of the same color as the stripe being replaced, (2) traffic cones, (3) portable delineators or channelizers placed longitudinally at intervals not exceeding 100 feet. You may apply temporary painted traffic stripe where removal of the 4-inch wide traffic stripe will not be required.

The Engineer determines the lateral offset for traffic cones, portable delineators, and channelizers used for temporary edge line delineation. If traffic cones or portable delineators are used for temporary pavement delineation for edge lines, maintain the cones or delineators during hours of the day when the cones or delineators are being used for temporary edge line delineation.

Channelizers used for temporary edge line delineation must be an orange surface-mounted type. Cement channelizer bases to the pavement as specified in section 85 for cementing pavement markers to pavement except do not use epoxy adhesive to place channelizers on the top layer of the pavement. Channelizers must be one of the 36-inch, surface-mounted types on the Authorized Material List.

Remove the temporary edge line delineation when the Engineer determines it is no longer required for the direction of traffic.

**12-8.04 PAYMENT**

Not Used

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## 13 WATER POLLUTION CONTROL

**Add to section 13-3.01A:**

The project is risk level 1.

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# 14 ENVIRONMENTAL STEWARDSHIP

**Add to section 14-1.02A:**

An ESA exists on this project.

Before start of work, protect the ESA by installing temporary fence (Type ESA).

Drainage System (DS) 8 - segment (a) is an ESA, no work shall be performed between October 1 through April 30 to construct DS 8 - segment (a) to connect into the existing Chollas Creek Channel.

**Replace the 1st paragraph of section 14-8.02 with:**

Do not operate construction equipment or run the equipment engines from 7:00 p.m. to 7:00 a.m. or on Sundays except you may operate equipment within the project limits during these hours to:

1. Service traffic control facilities
2. Service construction equipment

**Add to section 14-8.02:**

Provide one Type 1 sound level meter and 1 acoustic calibrator to be used by the Department until Contract acceptance. Provide training by a person trained in noise monitoring to 1 Department employee designated by the Engineer. The sound level meter must be calibrated and certified by the manufacturer or other independent acoustical laboratory before delivery to the Department. Provide annual recalibration by the manufacturer or other independent acoustical laboratory. The sound level meter must be capable of taking measurements using the A-weighting network and the slow response settings. The measurement microphone must be fitted with a windscreen. The Department returns the equipment to you at Contract acceptance. Work specified in this paragraph is paid for as noise monitoring.

**Replace section 14-11.03 with:**

## 14-11.03 MATERIAL CONTAINING HAZARDOUS WASTE CONCENTRATIONS OF AERIALLY DEPOSITED LEAD

### 14-11.03A General

#### 14-11.03A(1) Summary

Section 14-11.03 includes specifications for hazardous waste management while excavating, stockpiling, transporting, placing, and disposing of material containing hazardous waste concentrations of aerially deposited lead (ADL).

ADL is present within the project limits.

#### 14-11.03A(2) Definitions

**Type Y-1:** Material that contains ADL in average concentrations (using the 90 percent Upper Confidence Limit) of 1.5 mg/L or less extractable lead (based on a modified waste extraction test using deionized water as the extractant) and 1,411 mg/kg or less total lead. This material is a California hazardous waste that may be reused as permitted under the variance of the DTSC provided that the lead contaminated soil is placed a minimum of 5 feet above the maximum historic water table elevation and covered with at least 1 foot of non-hazardous soil.

**Type Y-2:** Material that contains ADL in average concentrations (using the 90 percent Upper Confidence Limit) that exceed either 1.5 mg/L extractable lead (based on a modified waste extraction test using deionized water as the extractant) or 1,411 mg/kg total lead but are less than 150 mg/L extractable lead (based on a modified waste extraction test using deionized water as the extractant) and less than 3,397 mg/kg of total lead. This material is a California hazardous waste that may be reused as permitted under the variance of DTSC provided that the lead contaminated soil is placed a minimum of 5 feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by the Department.

**Type Z-2**: Material that contains ADL in average concentrations (using the 95 percent Upper Confidence Limit) greater than or equal to 1,000 mg/kg total lead, greater than or equal to 5.0 mg/L soluble lead (as tested using the California Waste Extraction Test), and the material is surplus; or material that contains ADL in average concentrations greater than 150 mg/L extractable lead (based on a modified waste extraction test using deionized water as the extractant) or greater than 3,397 mg/kg total lead. This material is a Department-generated California hazardous waste and must be transported to and disposed of at a California Class I disposal site.

**Type Z-3:** Material that contains ADL in average concentrations (using the 95 percent Upper Confidence Limit) greater than 5.0 mg/L soluble lead, (as tested using the Toxicity Characteristic Leaching Procedure). This material is a Department-generated federal hazardous waste and must be transported to and disposed of at a California Class I disposal site.

### 14-11.03A(3) Site Conditions

ADL concentration data and sample locations maps are included in the *Information Handout*.

Type Z-2 material exists 30 feet, measured horizontally from the edges of existing pavement,and from a depth of 0 to 3 feet below existing grade in excavation areas in locations 1, 2, 3, 4, 5, and 8 as shown.

### 14-11.03A(4) Submittals

#### 14-11.03A(4)(a) Lead Compliance Plan

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii).

#### 14-11.03A(4)(b) Excavation and Transportation Plan

Within 15 days after approval of the Contract, submit 3 copies of an excavation and transportation plan. Allow 7 days for review. If revisions are required, as determined by the Engineer, submit the revised plan within 7 days of receipt of the Engineer's comments. For the revision, allow 7 days for the review. Minor changes to or clarifications of the initial submittal may be made and attached as amendments to the excavation and transportation plan. In order to allow construction to proceed, the Engineer may conditionally approve the plan while minor revisions or amendments are being completed.

Prepare the written, project specific excavation and transportation plan establishing the procedures you will use to comply with requirements for excavating, stockpiling, transporting, and placing or disposing of material containing ADL. The plan must comply with the regulations of the DTSC and Cal/OSHA and the requirements of the variance. The sampling and analysis portions of the excavation and transportation plan must meet the requirements for the design and development of the sampling plan, statistical analysis, and reporting of test results contained in US EPA, SW 846, "Test Methods for Evaluating Solid Waste," Volume II: Field Manual Physical/Chemical, Chapter Nine, Section 9.1. The plan must include the following elements:

1. Excavation schedule by location and date
2. Temporary locations of stockpiled material
3. Dust control measures
4. Transportation equipment and routes
5. Method for preventing spills and tracking material onto public roads
6. Truck waiting and staging areas
7. Site for disposal of hazardous waste

#### 14-11.03A(4)(c) Burial Location Report

Not Used

### 14-11.03A(4)(d) Bill of Lading

Not Used.

### 14-11.03A(5) Quality Control and Assurance

Excavation, reuse, and disposal of material with ADL must comply with rules and regulations of the following agencies:

1. US DOT
2. US EPA
3. California Environmental Protection Agency
4. CDPH
5. DTSC
6. Cal/OSHA
7. California Department of Resources Recycling and Recovery
8. RWQCB, Region 9, San Diego
9. California Air Resources Board
10. San Diego County APCD

Transport and dispose of material containing hazardous levels of lead under federal and state laws and regulations and county and municipal ordinances and regulations. Laws and regulations that govern this work include:

1. Health & Safety Code, Division 20, Chp 6.5 (California Hazardous Waste Control Act)
2. 22 CA Code of Regs, Div. 4.5 (Environmental Health Standards for the Management of Hazardous Waste)
3. 8 CA Code of Regs

### 14-11.03B Materials

Not Used

### 14-11.03C Construction

### 14-11.03C(1) General

Not Used

### 14-11.03C(2) Material Management

Transport excavated Type Z-2 material using:

1. Hazardous waste manifest
2. Hazardous waste transporter with a current DTSC registration certificate and CA Highway Patrol (CHP) Biennial Inspection of Terminals (BIT) Program compliance documentation.

### 14-11.03C(3) Dust Control

Excavation, transportation, placement, and handling of material containing ADL must result in no visible dust migration. A water truck or tank must be on the job site at all times while clearing and grubbing or performing earthwork operations in work areas containing ADL. Apply water to prevent visible dust.

### 14-11.03C(4) Surveying Type Y-1 or Y-2 Material Burial Locations

Not Used.

### 14-11.03C(5) Material Transportation

Before traveling on public roads, remove loose and extraneous material from surfaces outside the cargo areas of the transporting vehicles and cover the cargo with tarpaulins or other cover, as outlined in the approved excavation and transportation plan. You are responsible for costs due to spillage of material containing lead during transport. Transportation routes for Type Y-1 or Y-2 material must only include the highway.

**14-11.03C(6) Disposal**

Analyze surplus material for which the lead content is not known for lead before removing the material from within the project limits. Submit a sampling and analysis plan and the name of the analytical laboratory at least 15 days before beginning sampling and analysis. Use a CDPH ELAP certified laboratory. Sample at a minimum rate of 1 sample for each 200 cu yd of surplus material and test for lead using US EPA Method 6010B or 7000 series.

**14-11.03D Payment**

Payment for a lead compliance plan is not included in the payment for environmental stewardship work.

The Department does not pay for stockpiling of material containing ADL, unless the stockpiling is ordered. The Department does not pay for sampling and analysis unless it is ordered. The Department does not pay for additional sampling and analysis required by the receiving landfill.

Sampling, analyses, and reporting of results for surplus material not previously sampled is change order work.

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# 15 EXISTING FACILITIES

**Replace section 15-2.03A(2)(b) with:**

**15-2.03A(2)(b) Department Salvage Location**

A minimum of 2 business days before hauling salvaged material to the Department salvage storage location, notify:

1. Engineer

For irrigation controllers, the Department salvage storage location is:

Caltrans Kearny Mesa Construction Field Office
7177 Opportunity Rd, San Diego, CA, 92111

**Replace section 15-2.03A(4) with:**

**15-2.03A(4) Payment**

Payment for salvaging irrigation controllers is included in the payment for remove irrigation facility.

**Replace "Reserved" in section 15-2.03C with:**

With each delivery to the salvage location, include a list of the quantity and size of each item.

**Replace section 15-2.05C with:**

**15-2.05C Abandon Culverts and Pipelines**

**15-2.05C(1) General**

Abandon culverts or pipelines by removing portions of the culverts or pipelines, filling the inside, and backfilling the depressions and trenches to grade. As an alternative to abandoning a culvert or pipeline, you may remove the culvert or pipeline, dispose of it, and backfill.

Notify the Engineer before abandoning a culvert or pipeline.

**15-2.05C(2) Materials**

Openings into existing structures that are to remain in place must be plugged with minor concrete under section 90.

**15-2.05C(3) Construction**

Wherever culverts or pipelines intersect side slopes, remove them to a depth of at least 3 feet. Measure the depth normal to the plane of the finished side slope. Abandon the remaining portion of the culvert or pipeline.

Culverts or pipelines that are 12 inches or more in diameter must be completely filled by authorized methods. Backfill with sand that is clean, free draining, and free from roots and other deleterious substances. As an alternative to sand, you may backfill with one of the following:

1. Controlled low-strength material under section 19-3.02F
2. Slurry cement backfill under section 19-3.02D

Ends of culverts and pipelines must be securely closed by a 6-inch-thick, tight-fitting plug or wall of commercial-quality concrete.

**15-2.05C(4) Payment**

If backfilling inside the culvert or pipeline is required, payment for backfilling inside the culvert or pipeline is paid for as sand backfill. Payment for backfilling outside the culvert or pipeline is included in the payment for abandon culvert or abandon pipeline.

^^^

**Replace section 20-1.03A with:**

**20-1.03A Progress Inspections**

Progress inspections are intermittently performed by the Engineer at various stages of work during the Contract.

**Add to section 20-1.03C:**

Granular preemergent must be applied before the placement of mulch. The preemergent application and mulch placement must be completed in a single area within the same work day.

**Add to section 20-1.03B:**

Before the application of preemergents, ground cover plants must have been planted a minimum of 3 days and must have been thoroughly watered.

A minimum of 100 days must elapse between applications of preemergents.

Except for ground cover plants, preemergents must not be applied within 18 inches of plants or within wildflower seeding areas.

Growth regulators must not be used.

**Add to section 20-1.03D:**

Pruning work must be performed under the direction of a certified arborist.

**Add to the list in the 1st paragraph of section 20-2.01B:**

3. A work plan for maintain existing planted areas.

**Add to section 20-2.03D:**

After deficiencies are corrected, perform work to maintain existing planted areas in a neat and presentable condition and to promote healthy plant growth. Submit a work plan that includes weeding, weed control, fertilization, mowing and trimming of turf areas, watering, and controlling rodents and pests. The work plan must include the following requirements:

1. Weeds must be killed in existing planted areas as shown. Weeds in existing plant basins, including basin walls, must be killed by hand pulling.
2. Where pesticides are used to kill weeds, weeds must be killed before they reach the seed stage of growth or exceed 4 inches in length, whichever occurs first.
3. Where weeds are to be killed by hand pulling, weeds must be hand pulled before they reach the seed stage of growth or exceed 4 inches in length, whichever occurs 1st, except for tumbleweeds. Dispose of weeds the same day they are pulled.
4. Tumbleweeds must be killed by hand pulling before they reach the seed stage of growth or exceed 6 inches in length, whichever occurs 1st. Dispose of tumbleweeds the same day they are pulled.
5. Weeds killed in existing planted areas must extend beyond the outer limits of the existing planted areas to the adjacent edges of paving, fences, proposed plants and planting areas, and the clearing limits as described in section 20-7.03B.
6. Weeds must be killed within a 6 foot diameter area centered at each existing tree and shrub located outside of the existing planted areas.
7. Pesticides used for maintaining existing planted areas must comply with section 20-1.02B.
8. Water plants automatically if the irrigation system for that area is operational.
9. Existing plant basins, if still required as determined by the Engineer, must be kept well-formed and free of silt. If the existing plant basins need repairs, and the basins contain mulch, replace the mulch after the repairs are done.

**Replace section 20-3.01C(3) with:**

**20-3.01C(3) Control and Neutral Conductors Schedule of Values**

Submit a schedule of values for control and neutral conductors. Submit the schedule after the wiring plans and diagrams for the electrical components of the irrigation system, except electrical service, have been authorized.

The unit descriptions shown in the table are the minimum. You may include additional unit descriptions. Include the quantity, value, and amount for those additional unit descriptions.

Use the authorized wiring plan and diagrams to determine the quantities required to complete the work.

No adjustment in compensation is made in the contract lump sum price paid for control and neutral conductors work due to differences between the quantities shown in the schedule of values for control and neutral conductors work and the quantities required to complete the work.

Schedule of Values for Control and Neutral Conductors

| Contract no. 282404 | | | | |
|---|---|---|---|---|
| Unit description | Unit | Approximate quantity | Value | Amount |
| __ AWG (UF) conductors (provide size) | LF | | | |
| __ AWG (UF) conductors | LF | | | |
| __ AWG (UF) conductors | LF | | | |
| No. 5 or larger pull box | EA | | | |
| Splices | EA | | | |
| __ Sprinkler control conduit (provide size) | LF | | | |
| __ Sprinkler control conduit | LF | | | |
| __ Sprinkler control conduit | LF | | | |

Total _____

**Replace the 5th item in the 1st paragraph of section 20-3.02H(1) with:**

**Add to section 20-3.02I:**

Irrigation controller enclosure cabinet dimensions for a single irrigation controller must be 36 inches high by 24 inches wide by 12 inches deep.

Irrigation controller enclosure cabinets must be fabricated of stainless steel.

Door locks for the irrigation controller enclosure cabinets must be a removable-core mortise cam cylinder door lock that receives the Department's lock core. The Department's lock core is a "Best" construction core. Keys must be removable from the locks in the locked position only. Install door locks in conformance with the manufacturer's written instructions and recommendations. Deliver 2 keys for each door lock to the Engineer.

Irrigation controller enclosure cabinet door handles must allow padlocking in the latched position. The padlock is furnished by the Engineer.

Fabricate mounting panels with stainless steel metal sheets with a minimum thickness of 0.157 inch.

**Add to section 20-3.02:**

**20-3.02M(6) Temporary Irrigation Supply Lines**

Temporary irrigation supply lines and fittings and must be either:

1. Galvanized steel pipe and comply with section 20-3.02M(2).
2. Schedule 80 PVC pipe and comply with section 20-3.02M(3)(a).
3. As approved by the Engineer.

The size of temporary irrigation supply lines must be as shown.

**Replace the 2nd sentence of the 3rd paragraph of section 20-3.02P(2) with:**

Color of drain grate must be sand.

**Replace the 4th paragraph of section 20-3.02P(2) with:**

Pea gravel for filling the drainpipe must have a maximum diameter of 1/2 inch. Pea gravel must be naturally rounded aggregate, clean, washed, dry and free from clay or organic material.

**Add to section 20-3.02R(3)(b):**

Remote control valves must be brass.

**Replace item 6 of paragraph 2 in section 20-3.02R(3)(b) with:**

6. Have an external and internal manual bleed device.

**Add to paragraph 2 of section 20-3.02R(3)(b):**

8. Be equipped with a self-flushing feature manufactured to be used with recycled water. Valves must not have external tubing.
9. Have one-piece solenoids with plunger and spring secured to the solenoid.

**Add to section 20-3.02R(3)(b):**

Valves must be straight pattern as shown.

**Replace the 3rd sentence of the last paragraph in section 20-3.02R(5) with:**

Pipe flanges used to connect plastic or metal pipe to gate valves must be metal.

**Replace the last sentence of the 6th paragraph in section 20-3.02U with:**

Label material must be plate plastic.

**Add to section 20-3.03E(2):**

Apply 1 application of a preemergent pesticide to trenched areas in existing ground cover areas and to trenched areas adjacent to fences, curbs, dikes and shoulders. The Engineer determines when the preemergent pesticide must be applied.

**Add to section 20-3.03F(3):**

Plastic pipe supply line mains must be installed not less than 1.5 feet below finished grade measured to the top of the pipe.

**Add to section 20-3.03F:**

**20-3.03F(7) Temporary Irrigation Supply Lines**

Temporary irrigation supply lines:

1. Must be installed and functioning prior to irrigation removal and clearing and grubbing work.
2. Must be installed on-grade in such a manner that it will not present a hazard to traffic or interfere with other construction activities.
3. Must maintain continuous water supply until plastic pipe supply lines are installed.
4. May be relocated as needed to maintain water supply during construction.
5. Must be removed when the Engineer determines that the temporary irrigation supply line is no longer needed.

**Replace the 5th paragraph of section 20-3.03N with:**

Pipe supply lines on the discharge side of the valve must be tested in conformance with Method B only. Testing by Method A is not allowed.

Pipelines installed by trenching and backfilling and pipelines that are completely visible after installation must be tested by Method B. All other pipelines, including those installed in the ground by methods other than trenching and backfilling must be tested by Method A.

**Add to section 20-3.03P:**

Functional tests for work locations 1, 2 and 3 must conform with this section. Functional tests for work locations 4, 5, 6, 7 and 8 must conform with section 20-6.

**Add to section 20-3.04:**

Temporary irrigation supply lines will be measured after the initial installation. Relocated temporary irrigation supply lines will not be measured or paid for.

**Replace "Reserved" in section 20-6 with:**

**20-6.01 GENERAL**

**20-6.01A Summary**

Section 20-6 includes specifications for performing remote irrigation control system functional testing at work locations 4, 5, 6, 7, and 8 utilizing existing Rain Bird Maxicom irrigation controllers and related equipment.

**20-6.01B Definitions**

**CCU:** Cluster control unit

**RICS:** Remote irrigation control system

**20-6.01C Submittals**

Submit a report containing the flow rate for each remote control valve after Stage 2 RICS testing.

**20-6.01C(1) Notification**

Notify the Engineer at least 15 business days prior to stage 1 and stage 2 RICS testing.

**20-6.02 MATERIALS**

Not used.

## 20-6.03 CONSTRUCTION

### 20-6.03A General

Functional tests are required for each irrigation controller and associated automatic irrigation system components served by a single electric service point, or a group of irrigation controllers and associated automatic irrigation system components served by a single electric service point.

The Engineer determines the length of the cycle.

The existing RICS base station is located in the District 11, Water Manager's office, located at 4050 Taylor Street, San Diego, CA, 92110, telephone No. (619) 894-0364.

The Department maintains and repairs existing base station facilities and will repair the following within 10 days of a malfunction:

1. Computer
2. Printer
3. Mouse
4. Keyboard
5. Cables
6. Software

### 20-6.03B RICS Testing

Unsatisfactory performance of tested irrigation systems components must be repaired and rechecked through one complete cycle of operation until satisfactory performance is obtained. Repairs will be at your expense, except for repairs to the existing base station.

RICS functional testing consists of two stages.

#### 20-6.03B(1) Stage 1 RICS Testing

Stage one functional testing must:

1. Be performed without connection to the base station
2. Be satisfactorily completed before planting plants
3. Demonstrate to the Engineer, through one complete cycle of operation in the automatic mode, that the associated automatic components of the irrigation system operate properly.

#### 20-6.03B(2) Stage 2 RICS Testing

Stage two functional testing must:

1. Be performed while connected to the existing RICS base station
2. Be satisfactorily completed after Stage 1 and before the start of the plant establishment period
3. Demonstrate to the Engineer, over a period of not less than 7 days of consecutive automatic operation, that the irrigation controllers and associated automatic irrigation components operate properly when connected to the base station
4. Test all facilities from Stage 1 and the following:
   - 4.1 Software programs
   - 4.2 Telephone service
   - 4.3 Radios for communication between the CCU and the irrigation controllers
5. Test the existing RICS base station to detect and report the following:
   - 5.1 Supply line (main) pipe and remote control valve master flow alarms

## 20-6.04 PAYMENT

Payment for RICS functional testing is included in payment for the various items of work.

**Add to the 1st paragraph of section 20-7.01B(2):**

4. Native sod

**Add to section 20-7.02C:**

**20-7.02C(6) Native Sod**

Native sod must:

1. Comply with section 20-7.02C(5).
2. Be healthy field grown sod containing not more than 1/2 inch thick thatch.
3. Be not less than 8 months or more than 16 months in age.
4. Be grown on a biodegradable net or mesh.

**Add to section 20-7.03B(2):**

Weeds must be killed within ground cover and native sod areas and within the area extending beyond the outer limits of the ground cover and native sod areas to the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, existing planting, and fences. At those locations where ground cover and native sod areas are 12 feet or more from the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, and fences, the clearing limit must be 6 feet beyond the outer limits of the ground cover and native sod areas.

Weeds must be killed within mulch areas and within the area extending beyond the outer limits of the mulch areas to the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, existing planting and fences. At those locations where mulch areas are 12 feet or more from the adjacent edges of shoulders, dikes, curbs, sidewalks, walls, and fences, the clearing limit must be 6 feet beyond the outer limits of the mulch areas.

Weeds must be killed within 2 feet of the edges of paved shoulders, dikes, curbs, and sidewalks.

Weeds must be killed within planting areas where plants are to be planted in groups or rows 15 feet or less apart and from within an area extending 6 feet beyond the outer limits of the groups or rows of plants.

Existing ground cover must be killed and removed from within an area 6 foot in diameter centered at each plant location within existing ground cover areas.

**Replace the 1st paragraph in section 20-7.03B(2) with:**

Dispose of weeds killed during the initial roadside clearing.

**Replace the 2nd paragraph in section 20-7.03B(3) with:**

Dispose of weeds killed after initial roadside clearing.

Plants adjacent to drainage ditches must be located so that after construction of the basins, no portion of the basin wall is less than the minimum distance shown for each plant involved.

**Add to section 20-7.03I(1):**

A granular preemergent must be applied to areas to be covered with mulch outside of plant basins.

**Add to section 20-7.03I(11):**

For plants planted within areas watered by an overhead irrigation system, the watering of these plants must occur between the hours of 10:00 PM and 6:00 AM within a maximum of 20 days after the plants have been planted.

**Add to section 20-7.03I:**

**20-7.03I(17) Native Sod**

Comply with section 20-7.03I(14), except that cultivation is not required.

Comply with section 21-1.03N.

Cover the outer edges of native sod with soil so that the roots are not exposed. You may use soil obtained from the adjacent areas.

Native sod areas will not be required to be mowed or trimmed.

**Add to section 20-9.01A:**

The plant establishment period must be Type 2.

**Replace section 20-9.01C(1) with:**

**20-9.01C(1) General**

Submit the following seasonal watering schedules, March through May, June through August, September through October, and November through February, for use during the plant establishment period. Submit the first seasonal watering schedule within 10 days after the start of the plant establishment period. Subsequent seasonal schedules must be submitted within 5 days of the beginning of each seasonal period.

Submit updated watering schedules within 5 business days after any changes have been made to the authorized schedules.

Submit revised watering schedules for each irrigation controller not less than 30 days before completion of the plant establishment period.

**Add to section 20-9.03C:**

Apply slow-release or controlled-release fertilizer to the plants during the 1st week of April, July and September of each year.

**Add to section 20-9.03D:**

If ordered, apply 1 application of a preemergent pesticide between 40 and 50 working days before completion of the plant establishment period. This work is change order work.

Control weeds by:

1. Hand pulling:
   1.1. In plant basins and on basin walls
   1.2. In native sod planting areas
2. Killing:
   2.1. In mulched areas and ground cover planting areas outside of plant basins
   2.2. In planting areas without ground cover plantings or located outside of ground cover areas
   2.3. In ground cover planting areas without plant basins

**Replace section 20-9.03I with:**

**20-9.03I Watering**

At work locations 1, 2 and 3 operate the electric automatic irrigation systems irrigation controllers in the automatic mode unless authorized.

At work locations 4, 5, 6, 7 and 8 operate the existing RICS irrigation controllers in the "stand-alone" mode, except for the last 30 days of the plant establishment period. During the last 30 days of the plant establishment period water plants utilizing the RICS software program unless authorized.

Seasonal watering schedules must be entered into the controllers by the Contractor, except the seasonal watering schedule for the last 30 days of the plant establishment period at work locations 4, 5, 6, 7 and 8 which will be entered by the Engineer.

If any component of the electric automatic irrigation system is operated manually, the day will not be credited as a plant establishment working day unless the manual operation is authorized.

All overhead irrigation must be watered between the hours of 10:00 PM and 6:00 AM.

**Replace the 1st paragraph of section 20-9.03J with:**

Native sod areas are not required to be mowed or trimmed.

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^^^

**Add to section 68-2.02F:**

**68-2.02F(5) Class 5 Permeable Material**

Class 5 permeable material for use in media filters must consist of hard, durable, clean sand, and must be free from organic material, clay balls, or other deleterious substances.

The percentage composition by weight of Class 5 permeable material in place must comply with the grading requirements shown in the following table:

**Class 5 Permeable Material Grading Requirements**

| Sieve sizes | Percentage passing |
|---|---|
| 3/8" | 100 |
| No. 4 | 95–100 |
| No. 8 | 80–100 |
| No. 16 | 45–85 |
| No. 30 | 15–60 |
| No. 50 | 3–15 |
| No. 100 | 0–4 |
| No. 200 | 0 |

| Standard ASTM 6913 | Range |
|---|---|
| Effective Particle size (ES)=($D_{10}$) | 0.0098”-0.0197” |
| Uniformity Coefficient Uc = ($D_{60}/D_{10}$) | < 4 |

Class 5 permeable material must have a durability index of not less than 40.

At least 5 days before placing Class 5 permeable material, submit a certificate of compliance for gradation of the material.

No more than 5 days after placing Class 5 permeable material, submit:

1. At least one ASTM D 6913 test on the permeable material at an authorized location from material delivered to project.
2. Verification that the placed permeable material complies with the grading requirements

Prior to placement, wash Class 5 permeable material:

1. To remove silt and clay particles.
2. With potable water equal to at least four times the volume of the material to be placed.

After placement, wash Class 5 permeable material:

1. With potable water.
2. Until the discharged water has a turbidity reading of:
   b. 200 NTU or less for jobs outside of the Tahoe Hydrologic Unit

You must capture and dispose of the wash water. Dispose of wash water outside of the state right of way.

Place Class 5 permeable material:

1. In a manner that will not damage or cause permanent displacement of the filter fabric.
2. Using methods that will produce a finished surface as shown.

**Replace section 68-2.02F:**

**68-2.02F Infiltration System**

**68-2.02F(1) General**

Replace this text to section 68-2.02F

Infiltration System must consist of one of these products or equal:

1. StormtankTM by Brentwood Industries
2. Raintank by Price &Company
3. ACO Stormtank, by ACO Water Management

The contractor must have the manufacturer of one of these products or equal, supply shop drawings and structural load analysis consistent with section 3 of the Caltrans Bridge Design Specifications. The load calculations must be stamped by a California Registered Engineer. The load analysis must be consistent with HS-20 loading. The shop drawing and calculations must be submitted to the resident engineer for review and approval by the District Structures representative. The submittal must be submitted 30 days prior to construction for review by the Caltrans representative.

All products used as permeable material geocomposite must have a void space of 90% or greater.

Permeable material must be placed in a even 18” layer under the entire Infiltration System modules area, rolled in level layer.

Each pipe inlet and outlet to the Infiltration System shall have Flap gates installed. Flap gates must be Waterman SSF-41; Golden Harvest, Inc,, GH-39P Stainless Steel Circular Discharge Flap Gate; Fontaine Industries, Series 60 Stainless Steel (316) Circular Flap Gate; Plasti-fab, Inc., Stainless Steel Body Neoprene Circular Flap Gate, or equal. Cracking pressure required to open the 18" flap gate inside the Infiltration System shall be no more than 0.5 psi.

**68-2.02F(2) Class 4 Permeable Material**

Use Class 4 permeable material or insert table for alternative gradations to meet site specific needs.

**Add to section 68-2.02G:**

**68-2.02G Filter Fabric**

Use Filter Fabric Class D

**Add to 68-2.03**

**68-2.03 CONSTRUCTION**

Construction of **Infiltration System** must follow the guidelines and instructions from the manufacturer or as approved by the engineer if any of the construction methods deviate from manufacturer recommendations. All deviations in construction will be submitted to the Resident Engineer 30 days prior to construction for approval. The permeable material and fabric will be those included in the specification. Excavation and the design of the shoring system used in construction, is the responsibility of the contractor.

**68-2.03 Infiltration System**

Any specialty items not included here, but are required by the manufacturer for the operation and maintenance of the Infiltration System must be included in the price for each system.

**Add to 68-2.04**

**68-2.04 Payment**

Payment for Infiltration System shall include all the items required for the construction of this system as per manufacturer recommendations including but not limited to infiltration modules, filter fabric, permeable material.

**Replace section 68-5 with:**

**68-5 PERMEABLE MATERIAL BLANKET**

**68-5.01 GENERAL**

Section 68-5 includes specifications for installing permeable material blankets.

**68-5.02 MATERIALS**

Permeable material for permeable material blanket must be Class 4 and must comply with section 68-2 except for payment.

Filter fabric must comply with section 88-1.02B.

**68-5.03 CONSTRUCTION**

Place filter fabric as follows:

1. Ensure the subgrade complies with the compaction and elevation tolerance specified for the material involved before placing the filter fabric on the subgrade.
2. Handle and place filter fabric under the manufacturer's instructions.
3. Align and place the fabric without wrinkles.
4. Overlap or stitch adjacent borders of the fabric from 12 to 18 inches. The preceding roll must overlap the following roll in the direction the permeable material is being spread or must be stitched. If the fabric is joined by stitching, the fabric must be stitched with yarn of a contrasting color. The size and composition of the yarn must be as recommended by the fabric's manufacturer. The stitches must number 5 to 7 per 1 inch of seam.
5. Cover the fabric with the planned thickness of permeable material or aggregate subbase material as shown within 24 hours after the filter fabric has been placed.
6. Maintain a minimum of 6 inches of the material between the fabric and your equipment during spreading and compaction of the permeable material and aggregate subbase. Where embankment material is to be placed on the filter fabric, maintain a minimum of 18 inches of embankment material between the fabric and your equipment. Do not operate or drive equipment or vehicles directly on the filter fabric.

**68-5.04 PAYMENT**

Class 4 Permeable material (blanket) is measured by the dimensions shown.

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**Replace "Reserved" in section 86-1.06B with:**

Traffic Management System (TMS) elements include, but are not limited to ramp metering (RM) system, communication system, traffic monitoring stations, video image vehicle detection system (VIVDS), microwave vehicle detection system (MVDS), loop detection system, changeable message sign (CMS) system, extinguishable message sign (EMS) system, highway advisory radio (HAR) system, closed circuit television (CCTV) camera system, roadway weather information system (RWIS), visibility sensor, and fiber optic system.

Existing TMS elements, including detection systems, shown and located within the project limits must remain in place and be protected from damage. If the construction activities require existing TMS elements to be nonoperational or off line, and if temporary or portable TMS elements are not shown, the Contractor must provide for temporary or portable TMS elements. The Contractor must receive authorization on the type of temporary or portable TMS elements and installation method.

Before work is performed, the Engineer, the Contractor, and the Department's Traffic Operations Electrical representatives must jointly conduct a pre-construction operational status check of all existing TMS elements and each element's communication status with the Traffic Management Center (TMC), including existing TMS elements not shown and elements that may not be impacted by the Contractor's activities. The Department's Traffic Operations Electrical representatives will certify the TMS elements' location and status, and provide a copy of the certified list of the existing TMS elements within the project limits to the Contractor. The status list will include the operational, defined as having full functionality, and the nonoperational components.

The Contractor must obtain authorization at least 72 hours before interrupting existing TMS elements' communication with the TMC that will result in the elements being nonoperational or off line. The Contractor must notify the Engineer at least 72 hours before starting excavation activities.

Traffic monitoring stations and their associated communication systems, which were verified to be operational during the pre-construction operational status check, must remain operational on freeway/highway mainline at all times, except:

1. For a duration of up to 15 days on any continuous segment of the freeway/highway longer than 3 miles
2. For a duration of up to 60 days on any continuous segment of the freeway/highway shorter than 3 miles

If the construction activities require existing detection systems to be nonoperational or off line for a longer time period or the spacing between traffic monitoring stations is more than the specified criteria above, and temporary or portable detection operations are not shown, the Contractor must provide provisions for temporary or portable detection operations. The Contractor must receive authorization on the type of detection and installation before installing the temporary or portable detection.

If existing TMS elements shown or identified during the pre-construction operational status check, except traffic monitoring stations, are damaged or fail due to the Contractor's activity, where the elements are not fully functional, the Engineer must be notified immediately. If the Contractor is notified by the Engineer that existing TMS elements have been damaged, have failed or are not fully functional due to the Contractor's activity, the damaged or failed TMS elements, excluding structure-related elements, must be repaired or replaced, at the Contractor's expense, within 24 hours. For a structure-related elements, the Contractor must install temporary or portable TMS elements within 24 hours. For nonstructure-related TMS elements, the Engineer may authorize temporary or portable TMS elements for use during the construction activities.

The Contractor must demonstrate that repaired or replaced elements operate in a manner equal to or better than the replaced equipment. If the Contractor fails to perform required repairs or replacement work, the Department may perform the repair or replacement work and the cost will be deducted from monies due to the Contractor.

A TMS element must be considered nonoperational or off line for the duration of time that active communications with the TMC is disrupted, resulting in messages and commands not transmitted from or to the TMS element.

The Contractor must provide provisions for replacing existing TMS elements within the project limits, including detection systems, that were not identified on the plans or during the pre-construction operational status check that became damaged due to the Contractor's activities.

If the pre-construction operational status check identified existing TMS elements, then the Contractor, the Engineer, and the Department's Traffic Operations Electrical representatives must jointly conduct a post construction operational status check of all existing TMS elements and each element's communication status with the TMC. The Department's Traffic Operations Electrical representatives will certify the TMS elements' status and provide a copy of the certified list of the existing TMS elements within the project limits to the Contractor. The status list will include the operational, defined as having full functionality, and the nonoperational components. TMS elements that cease to be functional between pre and post construction status checks must be repaired at the Contractor's expense.

The Engineer will authorize the schedule for final replacement, the replacement methods and the replacement elements, including element types and installation methods before repair or replacement work is performed. The final TMS elements must be new and of equal or better quality than the existing TMS elements.

If no electrical work exists on the project and no TMS elements are identified within the project limits, the pre-construction operational status check is change order work.

Furnishing and installing temporary or portable TMS elements that are not shown, but are required when an existing TMS element becomes nonoperational or off line due to construction activities, is change order work.

Furnishing and installing temporary or portable TMS elements and replacing TMS elements that are not shown nor identified during the pre-construction operational status check and were damaged by construction activities is change order work.

If the Contractor is required to submit provisions for the replacement of TMS elements that were not identified, submitting the provisions is change order work.

**Add to section 86-2.05A:**

Conduit installed underground must be Type 3.

**Add to section 86-2.05C:**

If Type 3 conduit is placed in a trench, not in the pavement or under concrete sidewalk, after the bedding material is placed and the conduit is installed, backfill the trench to not less than 4 inches above the conduit with minor concrete under section 90-2, except the concrete must contain not less than 421 pounds of cementitious material per cubic yard. Backfill the remaining trench to finished grade with backfill material.

After conductors have been installed, the ends of the conduits terminating in pull boxes, service equipment enclosures, and controller cabinets must be sealed with an authorized type of sealing compound.

**Replace the 3rd paragraph in section 86-2.06A(2) of the RSS for section 86-2.06 with:**

In a ground or sidewalk area, embed the bottom of a pull box in crushed rock.

**Replace "Reserved" in section 86-2.06B of the RSS for section 86-2.06 with:**

**86-2.06B(1) General**

**86-2.06B(1)(a) Summary**

Section 86-2.06B includes specifications for installing non-traffic-rated pull boxes.

**86-2.06B(1)(b) Submittals**

Before shipping pull boxes to the jobsite, submit a list of materials, Contract number, pull box manufacturer, manufacturer's instructions for pull box installation, and your contact information to METS.

Submit reports for pull box from an NRTL-accredited lab.

**86-2.06B(1)(c) Quality Control and Assurance**

**86-2.06B(1)(c)(i) General**

Pull boxes may be tested by the Department. Deliver pull boxes and covers to METS and allow 30 days for testing. When testing is complete, you will be notified. You must pick up the boxes and covers from the test site and deliver it to the job site.

Any failure of the pull box or the cover that renders the unit noncompliant with these specifications will be a cause for rejection. If the unit is rejected, you must allow 30 days for retesting. Retesting period starts when the replacement pull box is delivered to the test site. You must pay for all retesting costs. Delays resulting from the submittal of noncompliant materials does not relieve you from executing the Contract within the allotted time.

If the pull box submitted for testing does not comply with the specifications, remove the unit from the test site within 5 business days after notification that it is rejected. If the unit is not removed within that period, it may be shipped to you at your expense.

You must pay for all shipping, handling, and transportation costs related to the testing and retesting.

**86-2.06B(1)(c)(ii) Functional Testing**

The pull box and cover must be tested under ANSI/SCTE 77, "Specification for Underground Enclosure Integrity."

**86-2.06B(1)(c)(iii) Warranty**

Provide a 2-year manufacturer replacement warranty for pull box and cover from the date of installation of the pull box and cover. All warranty documentation must be submitted before installation.

Replacement parts must be provided within 5 business days after receipt of failed pull box, cover, or both at no cost to the Department and must be delivered to the Department's Maintenance Electrical Shop at District 11 Maintenance-Electrical, 7181 Opportunity Road, San Diego, CA 92111.

**86-2.06B(2) Materials**

The pull box and cover must comply with ANSI/SCTE 77, "Specification for Underground Enclosure Integrity," for tier 22 load rating and must be gray or brown.

Each pull box cover must have an electronic marker cast inside.

Extension for the pull box must be of the same material as the pull box and attached to the pull box to maintain the minimum combined depths as shown.

Include recesses for a hanger if a transformer or other device must be placed in a pull box.

The bolts, nuts, and washers must be a captive bolt design.

The captive bolt design must be capable of withstanding a torque range of 55 to 60 ft-lb and a minimum pull out strength of 750 lb. Perform the test with the cover in place and the bolts torqued. The pull box and cover must not be damaged while performing the test to the minimum pull out strength.

Stainless steel hardware must have an 18 percent chromium content and an 8 percent nickel content.

Galvanize ferrous metal parts under section 75-1-.05.

Manufacturer's instructions must provide guidance on:

1. Quantity and size of entries that can be made without degrading the strength of the pull box below tier 22 load rating
2. Where side entries cannot be made
3. Acceptable method to be used to create the entry

Tier 22 load rating must be labeled or stenciled by the manufacturer on the inside and outside of the pull box and on the underside of the cover.

**86-2.06B(3) Construction**

Do not install pull box in curb ramps or driveways.

A pull box for a post or a pole standard must be located within 5 feet of the standard. Place a pull box adjacent to the back of the curb or edge of the shoulder. If this is impractical, place the pull box in a suitable, protected, and accessible location.

**Add to section 86-2.08A:**

Wrap conductors around the projecting end of conduit in pull boxes as shown. Secure conductors and cables to the projecting end of the conduit in pull boxes.

**Replace the 1st paragraph of section 86-2.09E with:**

Splices must be insulated by "Heat-shrink tubing."

**Delete the 8th paragraph of section 86-2.09E.**

**Add to section 86-5.01A(1):**

For Type E detector loops, sides of the slot must be vertical and the minimum radius of the slot entering and leaving the circular part of the loop must be 1-1/2 inches. Slot width must be a maximum of 5/8 inch. Loop wire for circular loops must be Type 2. Slots of circular loops must be filled with elastomeric sealant or hot-melt rubberized asphalt sealant.

The depth of the loop sealant above the top of the uppermost loop wire in the sawed slots must be 2 inches, minimum.

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1. Each stockpile lot
2. Steel slag

**87-2.02 MATERIALS**

**87-2.02A General**

Do not use air-cooled iron blast furnace slag to produce aggregate for:

1. Structure backfill material
2. Pervious backfill material
3. Permeable material
4. Reinforced or prestressed PCC component or structure
5. Nonreinforced PCC component or structure for which a Class 1 surface finish under section 51-1.03F(3) is required

Do not use aggregate produced from slag resulting from a steel-making process except in:

1. Imported borrow
2. AS
3. Class 2 AB
4. HMA

Steel slag used to produce aggregate for AS and Class 2 AB must be crushed such that 100 percent of the material will pass a 3/4-inch sieve and then control aged for at least 3 months under conditions that will maintain all portions of the stockpiled material at a moisture content in excess of 6 percent of the dry weight of the aggregate.

For steel slag aggregate, provide separate stockpiles for controlled aging of the slag. An individual stockpile must not contain less than 10,000 tons or more than 50,000 tons of slag. The material in each individual stockpile must be assigned a unique lot number, and each stockpile must be identified with a permanent system of signs. Maintain a permanent record of:

1. Dates for:
   1.1. Completion of stockpile
   1.2. Start of controlled aging
   1.3. Completion of controlled aging
   1.4. Making of tests
2. Test results

For each stockplie of steel slag aggregate, moisture tests must be made at least once each week. The time covered by tests that show a moisture content of 6 percent or less is not included in the aging time.

Notify METS and the Engineer upon completion of each stockpile and the start of controlled aging and upon completion of controlled aging. Do not add aggregate to a stockpile unless a new aging period is started.

Steel slag used for imported borrow must be weathered for at least 3 months.

Each delivery of aggregate containing steel slag for AS or Class 2 AB must include a delivery tag for each load. The tag must identify the lot by the stockpile number, slag aging location, and stockpile completion and controlled aging start date.

You may blend air-cooled iron blast furnace slag or natural aggregate in proper combinations with steel slag aggregate to produce the specified gradings.

California Test 202 is modified by California Test 105 whenever the difference in sp gr between the coarse and fine portions of the aggregate or between the blends of different aggregates is 0.2 or more.

For slag used as aggregate in HMA, the Kc factor requirements in California Test 303 do not apply.

If steel slag aggregates are used to produce HMA, no other aggregates may be used in the mixture except that up to 50 percent of the material passing the no. 4 sieve may consist of iron blast furnace slag aggregates, natural aggregates, or a combination of these. If iron blast furnace aggregates, natural aggregates, or a combination of these are used in the mixture, each aggregate type must be fed to the drier at a uniform rate. Maintain the feed rate of each aggregate type within 10 percent of the amount set. Provide adequate means for controlling and checking the feeder accuracy.

Store steel slag aggregate separately from iron blast furnace slag aggregate. Store each slag aggregate type separately from natural aggregate.

For HMA produced from steel slag aggregates, iron blast furnace slag aggregates, natural aggregates, or any combination of these, the same aggregate must be used throughout any one layer. Once an aggregate type is selected, do not change it without authorization.

Aggregate containing slag must comply with the applicable quality requirements for the bid items in which the aggregate is used.

**87-2.03 CONSTRUCTION**

Do not place aggregate produced from slag within 1 foot of a non–cathodically protected pipe or structure unless the aggregate is incorporated in concrete pavement, in HMA, or in treated base.

Do not place slag aggregate used for embankments within 18 inches of finished slope lines measured normal to the plane of the slope.

Whenever slag aggregate is used for imported borrow, place a layer of topsoil at least 24 inches thick after compaction over the slag aggregate in highway planting areas.

**87-2.04 PAYMENT**

The Department reduces the payment quantity of HMA if:

1. Steel slag aggregates are used to produce HMA
2. The sp gr of a compacted stabilometer test specimen is in excess of 2.40

The Department prepares the stabilometer test specimen under California Test 304 and determines the sp gr of the specimen under Method C of California Test 308.

The Department determines the HMA payment quantity by multiplying the quantity of HMA placed in the work by 2.40 and dividing the result by the sp gr of the compacted stabilometer test specimen. The Department applies this quantity reduction as often as necessary to ensure accurate results.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 88 GEOSYNTHETICS

**Add to section 88-1.02B:**

Filter fabric for Earthen Berm Austin Sand Filter must be Class D.

**Add below the Filter Fabric Table in section 88-1.02B:**

**Filter Fabric Class D**

| Property | Test | Value |
|---|---|---|
| Grab breaking load, lb<br>1-inch grip, min. in each direction | ASTM<br>D 4632 | 120x120 |
| Apparent elongation, percent<br>min., in each direction | ASTM<br>D 4632 | 50x50 |
| Permittivity, $sec^{-1}$,<br>minimum and maximum | ASTM<br>D 4491 | 1.6-1.8 |
| Apparent opening size, U.S. Standard sieve size<br>maximum and minimum | ASTM<br>D 4751 | 60-80 |
| Ultraviolet resistance, percent<br>minimum retained grab breaking load, 500 hr. | ASTM<br>D4355 | 70 |

# REVISED STANDARD SPECIFICATIONS APPLICABLE TO THE 2010 EDITION OF THE STANDARD SPECIFICATIONS

# REVISED STANDARD SPECIFICATIONS DATED 04-19-13

Revised standard specifications are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*. A date under a main-section heading is the date of the latest revision to the section.

Each revision to the *Standard Specifications* begins with a revision clause that describes a revision to the *Standard Specifications* or introduces a revision to the *Standard Specifications*. For a revision clause that describes a revision, the date on the right above the clause is the publication date of the revision. For a revision clause that introduces a revision, the date on the right above a revised term, phrase, clause, paragraph, or section is the publication date of the revised term, phrase, clause, paragraph, or section. For a multiple-paragraph or multiple-section revision, the date on the right above a paragraph or section is the publication date of the paragraphs or sections that follow.

Any paragraph added or deleted by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

# DIVISION I GENERAL PROVISIONS

## 1 GENERAL

04-19-13

**Replace "current" in the 2nd paragraph of section 1-1.05 with:**

04-20-12

most recent

**Add to the 4th paragraph of section 1-1.05:**

04-20-12

Any reference directly to a revised standard specification section is for convenience only. Lack of a direct reference to a revised standard specification section does not indicate a revised standard specification for the section does not exist.

**Add to the 1st table in section 1-1.06:**

04-19-13

| | |
|---|---|
| LCS | Department's lane closure system |
| POC | pedestrian overcrossing |
| QSD | qualified SWPPP developer |
| QSP | qualified SWPPP practitioner |
| TRO | time-related overhead |
| WPC | water pollution control |

06-20-12

**Delete the abbreviation and its meaning for *UDBE* in the 1st table of section 1-1.06.**

10-19-12

**Delete "Contract completion date" and its definition in section 1-1.07B.**

10-19-12

**Delete "critical delay" and its definition in section 1-1.07B.**

**Replace "day" and its definition in section 1-1.07B with:**

10-19-12

**day:** 24 consecutive hours running from midnight to midnight; calendar day.

1. **business day:** Day on the calendar except a Saturday and a holiday.
2. **working day:** Time measure unit for work progress. A working day is any 24-consecutive-hour period except:
   - 2.1. Saturday and holiday.
   - 2.2. Day during which you cannot perform work on the controlling activity for at least 50 percent of the scheduled work shift with at least 50 percent of the scheduled labor and equipment due to any of the following:
     - 2.2.1. Adverse weather-related conditions.
     - 2.2.2. Maintaining traffic under the Contract.
     - 2.2.3. Suspension of a controlling activity that you and the Engineer agree benefits both parties.
     - 2.2.4. Unanticipated event not caused by either party such as:
       - 2.2.4.1. Act of God.
       - 2.2.4.2. Act of a public enemy.
       - 2.2.4.3. Epidemic.
       - 2.2.4.4. Fire.
       - 2.2.4.5. Flood.
       - 2.2.4.6. Governor-declared state of emergency.
       - 2.2.4.7. Landslide.
       - 2.2.4.8. Quarantine restriction.
     - 2.2.5. Issue involving a third party, including:
       - 2.2.5.1. Industry or area-wide labor strike.
       - 2.2.5.2. Material shortage.
       - 2.2.5.3. Freight embargo.
       - 2.2.5.4. Jurisdictional requirement of a law enforcement agency.
       - 2.2.5.5. Workforce labor dispute of a utility or nonhighway facility owner resulting in a nonhighway facility rearrangement not described and not solely for the Contractor's convenience. Rearrangement of a nonhighway facility includes installation, relocation, alteration, or removal of the facility.
   - 2.3. Day during a concurrent delay.
3. **original working days:**
   - 3.1. Working days to complete the work shown on the *Notice to Bidders* for a non–cost plus time based bid.
   - 3.2. Working days bid to complete the work for a cost plus time based bid.

Where working days is specified without the modifier "original" in the context of the number of working days to complete the work, interpret the number as the number of original working days as adjusted by any time adjustment.

**Replace "Contract" in the definition of "early completion time" in section 1-1.07B with:**

10-19-12

work

**Replace "excusable delay" and its definition in section 1-1.07B with:**

10-19-12

**delay:** Event that extends the completion of an activity.

1. **excusable delay:** Delay caused by the Department and not reasonably foreseeable when the work began such as:
   1.1. Change in the work
   1.2. Department action that is not part of the Contract
   1.3. Presence of an underground utility main not described in the Contract or in a location substantially different from that specified
   1.4. Described facility rearrangement not rearranged as described, by the utility owner by the date specified, unless the rearrangement is solely for the Contractor's convenience
   1.5. Department's failure to obtain timely access to the right-of-way
   1.6. Department's failure to review a submittal or provide notification in the time specified
2. **critical delay:** Excusable delay that extends the scheduled completion date
3. **concurrent delay:** Occurrence of at least 2 of the following events in the same period of time, either partially or entirely:
   3.1. Critical delay
   3.2. Delay to a controlling activity caused by you
   3.3. Non–working day

**Replace "project" in the definition of "scheduled completion date" in section 1-1.07B with:**

10-19-12

work

**Add to section 1-1.07B:**

10-19-12

**Contract time:** Number of original working days as adjusted by any time adjustment.

06-20-12

**Disadvantaged Business Enterprise:** Disadvantaged Business Enterprise as defined in 49 CFR 26.5.

**Replace "PO BOX 911" in the District 3 mailing address in the table in section 1-1.08 with:**

04-20-12

703 B ST

**Add to the table in section 1-1.11:**

01-20-12

| | | | |
|---|---|---|---|
| Office Engineer–All Projects Currently Advertised | http://www.dot.ca.gov/hq/esc/oe/weekly_ads/all_advertised.php | -- | -- |

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 2 BIDDING

10-19-12

**Replace the 3rd paragraph of section 2-1.06B with:**

01-20-12

If an *Information Handout* or cross sections are available:

1. You may view them at the Contract Plans and Special Provisions link at the Office Engineer–All Projects Currently Advertised Web site
2. For an informal-bid contract, you may obtain them at the Bidders' Exchange street address

01-20-12

**Add a paragraph break between the 1st and 2nd sentences of the 5th paragraph of section 2-1.06B.**

**Add between "and" and "are" in item 2 in the list in the 7th paragraph of section 2-1.06B:**

04-20-12

they

06-20-12

**Delete "Underutilized" in "Underutilized Disadvantaged Business Enterprises" in the heading of section 2-1.12B.**

06-20-12

**Delete *U* in *UDBE* at each occurrence in section 2-1.12B.**

**Replace the 2nd paragraph of section 2-1.12B(1) with:**

06-20-12

To ensure equal participation of DBEs provided in 49 CFR 26.5, the Department shows a goal for DBEs.

06-20-12

**Delete the 3rd paragraph of section 2-1.12B(1):**

**Replace the 7th paragraph of section 2-1.12B(1) with:**

06-20-12

All DBE participation will count toward the Department's federally-mandated statewide overall DBE goal.

**Replace "offered" at the end of the 2nd sentence of item 7 in the list of 2nd paragraph of section 2-1.12B(3) with:**

06-20-12

provided

01-20-12

**Delete the 2nd paragraph of section 2-1.33A.**

**Replace the 3rd paragraph of section 2-1.33A with:**

01-20-12

Except for each subcontracted bid item number and corresponding percentage and proof of each required SSPC QP certification, do not fax submittals.

**Add to section 2-1.33C:**

10-19-12

On the *Subcontractor List*, you must either submit each subcontracted bid item number and corresponding percentage with your bid or fax these numbers and percentages to (916) 227-6282 within 24 hours after bid opening. Failure to do so results in a nonresponsive bid.

**Replace the paragraph in section 2-1.35 with:**

01-20-12

Submit proof of each required SSPC QP certification with your bid or fax it to (916) 227-6282 no later than 4:00 p.m. on the 2nd business day after bid opening. Failure to do so results in a nonresponsive bid.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 3 CONTRACT AWARD AND EXECUTION

10-19-12

**Add to the end of section 3-1.04:**

10-19-12

You may request to extend the award period by faxing a request to (916) 227-6282 before 4:00 p.m. on the last day of the award period. If you do not make this request, after the specified award period:

1. Your bid becomes invalid
2. You are not eligible for the award of the contract

**Replace the paragraph in section 3-1.11 with:**

10-19-12

Complete and deliver to the Office Engineer a *Payee Data Record* when requested by the Department.

**Replace section 3-1.13 with:**

07-27-12

**3-1.13 FORM FHWA-1273**

For a federal-aid contract, form FHWA-1273 is included with the Contract form in the documents sent to the successful bidder for execution. Comply with its provisions. Interpret the training and promotion section as specified in section 7-1.11A.

**Add to item 1 in the list in the 2nd paragraph of section 3-1.18:**

07-27-12

, including the attached form FHWA-1273

10-19-12

**Delete item 4 of the 2nd paragraph of section 3-1.18.**

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 5 CONTROL OF WORK

10-19-12

**Add between "million" and ", professionally" in the 3rd paragraph of section 5-1.09A:**

10-19-12

and 100 or more working days

**Add to the list in the 4th paragraph of section 5-1.09A:**

10-19-12

9. Considering discussing with and involving all stakeholders in evaluating potential VECPs

**Add to the end of item 1.1 in the list in the 7th paragraph of section 5-1.09A:**

10-19-12

, including VECPs

**Replace the 1st paragraph of section 5-1.09C with:**

10-19-12

For a contract with a total bid over $10 million and 100 or more working days, training in partnering skills development is required.

10-19-12

**Delete the 2nd paragraph of section 5-1.09C.**

**Replace "at least 2 representatives" in the 5th paragraph of section 5-1.09C with:**

10-19-12

field supervisory personnel

**Replace the 1st and 2nd sentences in the 7th paragraph of section 5-1.13B(1) with:**

06-20-12

If a DBE is decertified before completing its work, the DBE must notify you in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you in writing of the certification date.

**Replace "90" in the last sentence of the 7th paragraph of section 5-1.13B(1) with:**

06-20-12

30

**Replace "Underutilized" in "Underutilized Disadvantaged Business Enterprises" in the heading of section 5-1.13B(2) with:**

06-20-12

Performance of

06-20-12

**Delete *U* in *UDBE* at each occurrence in section 5-1.13B(2).**

**Replace the 3rd paragraph of section 5-1.13B(2) with:**

06-20-12

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or obtain materials from other sources without authorization from the Department.

**Replace item 6 in the list in the 4th paragraph of section 5-1.13B(2) with:**

06-20-12

6. Listed DBE is ineligible to work on the project because of suspension or debarment.

**Add to the list in the 4th paragraph of section 5-1.13B(2):**

06-20-12

8. Listed DBE voluntarily withdraws with written notice from the Contract.
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. Department determines other documented good cause.

**Add between the 4th and 5th paragraphs of section 5-1.13B(2):**

07-20-12

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 days to respond to your notice and advise you and the Department of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. 1 or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBE to you regarding the request

**Add between "terminated" and ", you" in the 5th paragraph of section 5-1.13B(2):**

07-20-12

or substituted

**Replace "Contract" in item 1 in the list in the 5th paragraph of section 5-1.13C with:**

10-19-12

work

**Replace "Reserved" in section 5-1.20C with:**

10-19-12

If the Contract includes an agreement with a railroad company, the Department makes the provisions of the agreement available in the *Information Handout* in the document titled "Railroad Relations and Insurance Requirements." Comply with the requirements in the document.

**Add between the 2nd and 3rd paragraphs of section 5-1.23A:**

10-19-12

Submit action and informational submittals to the Engineer.

**Add to section 5-1.36C:**

07-20-12

If the Contract does not include an agreement with a railroad company, do not allow personnel or equipment on railroad property.

Prevent material, equipment, and debris from falling onto railroad property.

**Add between the 1st and 2nd paragraphs of section 5-1.37A:**

10-19-12

Do not remove any padlock used to secure a portion of the work until the Engineer is present to replace it. Notify the Engineer at least 3 days before removing the lock.

**Replace the 1st sentence of the 1st paragraph of section 5-1.39C(2) with:**

10-19-12

Section 5-1.39C(2) applies if a plant establishment period of 3 years or more is shown on the *Notice to Bidders*.

**Replace "working days" in the 1st paragraph of section 5-1.43E(1)(a) with:**

10-19-12

original working days

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 6 CONTROL OF MATERIALS

04-19-13

**Replace section 6-2.05C with:**

04-19-13

**6-2.05C Steel and Iron Materials**

Steel and iron materials must be melted and manufactured in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials
2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or $2,500, materials produced outside the United States may be used if authorized

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured.

All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

07-27-12

**Replace "20 days" in the 14th paragraph of section 7-1.04 with:**

09-16-11

25 days

**Replace "90 days" in the 14th paragraph of section 7-1.04 with:**

09-16-11

125 days

**Add between the 18th and 19th paragraphs of section 7-1.04:**

09-16-11

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

**Replace the 2nd paragraph of section 7-1.11A with:**

07-27-12

A copy of form FHWA-1273 is included in section 7-1.11B. The training and promotion section of section II refers to training provisions as if they were included in the special provisions. The Department specifies the provisions in section 7-1.11D of the *Standard Specifications*. If a number of trainees or apprentices is required, the Department shows the number on the *Notice to Bidders*. Interpret each FHWA-1273 clause shown in the following table as having the same meaning as the corresponding Department clause:

**FHWA-1273 Nondiscrimination Clauses**

| FHWA-1273 section | FHWA-1273 clause | Department clause |
|---|---|---|
| Training and Promotion | In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. | If section 7-1.11D applies, section 7-1.11D supersedes this subparagraph. |
| Records and Reports | If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. | If the Contract requires on-the-job training, collect and report training data. |

**Replace the form in section 7-1.11B with:**

07-20-12

# REQUIRED CONTRACT PROVISIONS
# FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

## I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

## II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

## III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

## IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**4. Apprentices and trainees**

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages**. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

**IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

**X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

**1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

**2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 8 PROSECUTION AND PROGRESS

10-19-12

**Replace "working days" in the 1st paragraph of section 8-1.02B(1) with:**

10-19-12

original working days

**Replace "working days" at each occurrence in the 1st paragraph of section 8-1.02C(1) with:**

10-19-12

original working days

04-20-12

**Delete the 4th paragraph of section 8-1.02C(1).**

**Replace "Contract" in the 9th paragraph of section 8-1.02C(1) with:**

10-19-12

work

**Replace the 1st paragraph of section 8-1.02C(3)(a) with:**

04-20-12

Submit a description of your proposed schedule software for authorization.

04-20-12

**Delete the last paragraph of section 8-1.02C(3)(a).**

**Replace section 8-1.02C(3)(b) with:**

10-19-12

**8-1.02C(3)(b) Reserved**

04-20-12

**Delete the 3rd paragraph of section 8-1.02C(5).**

**Replace "Contract" in the last paragraph of section 8-1.02C(5) with:**

10-19-12

original

**Replace "working days" in the 1st paragraph of section 8-1.02D(1) with:**

10-19-12

original working days

**Replace "8-1.02D(1)" in the 2nd paragraph of section 8-1.02D(1) with:**

01-20-12

8-1.02C(1)

**Replace "Contract" in the 3rd paragraph of section 8-1.02D(2) with:**

10-19-12

work

**Replace "Contract" in item 9 in the list in the 4th paragraph of section 8-1.02D(4) with:**

10-19-12

work

**Replace "Contract completion" in the 4th paragraph of section 8-1.02D(6) with:**

10-19-12

work completion

**Replace "Contract working days" in the 4th paragraph of section 8-1.02D(6) with:**

10-19-12

original working days

04-20-12

**Delete items 1.3 and 1.4 in the list in the 1st paragraph of section 8-1.02D(10).**

**Replace the last paragraph of section 8-1.04B with:**

10-19-12

The Department does not adjust time for starting before receiving notice of Contract approval.

**Replace the 1st paragraph of section 8-1.05 with:**

10-19-12

Contract time starts on the last day specified to start job site activities in section 8-1.04 or on the day you start job site activities, whichever occurs first.

**Replace the 2nd paragraph of section 8-1.05 with:**

10-19-12

Complete the work within the Contract time.

10-19-12

**Delete "unless the Contract is suspended for reasons unrelated to your performance" in the 4th paragraph of section 8-1.05.**

**Replace the headings and paragraphs in section 8-1.06 with:**

10-19-12

The Engineer may suspend work wholly or in part due to conditions unsuitable for work progress. Provide for public safety and a smooth and unobstructed passageway through the work zone during the suspension as specified under sections 7-1.03 and 7-1.04. Providing the passageway is force account work. The Department makes a time adjustment for the suspension due to a critical delay.

The Engineer may suspend work wholly or in part due to your failure to (1) fulfill the Engineer's orders, (2) fulfill a Contract part, or (3) perform weather-dependent work when conditions are favorable so that weather-related unsuitable conditions are avoided or do not occur. The Department may provide for a

smooth and unobstructed passageway through the work during the suspension and deduct the cost from payments. The Department does not make a time adjustment for the suspension.

Upon the Engineer's order of suspension, suspend work immediately. Resume work when ordered.

**Replace the 1st sentence in the 1st paragraph of section 8-1.07B with:**

10-19-12

For a critical delay, the Department may make a time adjustment.

**Add to the end of section 8-1.07C:**

10-19-12

The Department does not make a payment adjustment for overhead incurred during non–working days that extend the Contract into an additional construction season.

**Replace the 1st paragraph of section 8-1.07C with:**

10-19-12

For an excusable delay that affects your costs, the Department may make a payment adjustment.

**Replace "8-1.08B and 8-1.08C" in the 1st paragraph of section 8-1.10A with:**

08-05-11

8-1.10B and 8-1.10C

**Replace section 8-1.10D with:**

10-19-12

**8-1.10D Reserved**

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 9 PAYMENT

01-18-13

**Replace item 1 in the 3rd paragraph of section 9-1.03 with:**

01-18-13

1. Full compensation for all work involved in each bid item shown on the Bid Item List by the unit of measure shown for that bid item

**Replace "in" in the 3rd paragraph of section 9-1.04A with:**

10-19-12

for

**Add to the end of section 9-1.04A:**

10-19-12

For nonsubcontracted work paid by force account for a contract with a TRO bid item, the markups are those shown in the following table instead of those specified in sections 9-1.04B–D:

| Cost | Percent markup |
|---|---|
| Labor | 30 |
| Materials | 10 |
| Equipment rental | 10 |

04-20-12

**Delete ", Huntington Beach," in the 3rd paragraph of section 9-1.07A.**

**Replace the formula in section 9-1.07B(2) with:**

04-20-12

*Qh* = *HMATT* x *Xa*

**Replace "weight of dry aggregate" in the definition of the variable *Xa* in section 9-1.07B(2) with:**

04-20-12

total weight of HMA

**Replace the formula in section 9-1.07B(3) with:**

04-20-12

*Qrh* = *RHMATT* x 0.80 x *Xarb*

**Replace "weight of dry aggregate" in the definition of the variable *Xarb* in section 9-1.07B(3) with:**

04-20-12

total weight of rubberized HMA

**Replace the heading of section 9-1.07B(4) with:**

04-20-12

**Hot Mix Asphalt with Modified Asphalt Binder**

**Add between "in" and "modified" in the introductory clause of section 9-1.07B(4):**

04-20-12

HMA with

**Replace the formula in section 9-1.07B(4) with:**

04-20-12

*Qmh* = *MHMATT* x [(100 - *Xam*) / 100] x *Xmab*

**Replace "weight of dry aggregate" in the definition of the variable *Xmab* in section 9-1.07B(4) with:**

04-20-12

total weight of HMA

**Replace the formula in section 9-1.07B(5) with:**

04-20-12

*Qrap* = *HMATT* x *Xaa*

**Replace "weight of dry aggregate" in the definitions of the variables *Xaa* and *Xta* in section 9-1.07B(5) with:**

04-20-12

total weight of HMA

**Add after the variable definitions in section 9-1.07B(9):**

04-20-12

The quantity of extender oil is included in the quantity of asphalt.

**Replace the headings and paragraphs in section 9-1.11 with:**

10-19-12

### 9-1.11A General

Section 9-1.11 applies if a bid item for time-related overhead is included in the Contract. If a bid item for time-related overhead is included, you must exclude the time-related overhead from every other bid item price.

### 9-1.11B Payment Quantity

The TRO quantity does not include the number of working days to complete plant establishment work.

For a contract with a TRO lump sum quantity on the Bid Item List, the Department pays you based on the following conversions:

1. LS unit of measure is replaced with WDAY
2. Lump sum quantity is replaced with the number of working days bid
3. Lump sum unit price is replaced with the item total divided by the number of working days bid

### 9-1.11C Payment Inclusions

Payment for the TRO bid item includes payment for time-related field- and home-office overhead for the time required to complete the work.

The field office overhead includes time-related expenses associated with the normal and recurring construction activities not directly attributed to the work, including:

1. Salaries, benefits, and equipment costs of:
   1.1. Project managers
   1.2. General superintendents
   1.3. Field office managers
   1.4. Field office staff assigned to the project
2. Rent
3. Utilities
4. Maintenance
5. Security
6. Supplies
7. Office equipment costs for the project's field office

The home-office overhead includes the fixed general and administrative expenses for operating your business, including:

1. General administration
2. Insurance
3. Personnel and subcontract administration
4. Purchasing
5. Accounting
6. Project engineering and estimating

Payment for the TRO bid item does not include payment for:

1. The home-office overhead expenses specifically related to:
   1.1. Your other contracts or other businesses
   1.2. Equipment coordination
   1.3. Material deliveries
   1.4. Consultant and legal fees
2. Non-time-related costs and expenses such as mobilization, licenses, permits, and other charges incurred once during the Contract
3. Additional overhead involved in incentive/disincentive provisions to satisfy an internal milestone or multiple calendar requirements
4. Additional overhead involved in performing additional work that is not a controlling activity
5. Overhead costs incurred by your subcontractors of any tier or suppliers

**9-1.11D Payment Schedule**

For progress payments, the total work completed for the TRO bid item is the number of working days shown for the pay period on the *Weekly Statement of Working Days*.

For progress payments, the Department pays a unit price equal to the lesser of the following amounts:

1. Price per working day as bid or as converted under section 9-1.11B.
2. 20 percent of the total bid divided by the number of original working days

For a contract without plant establishment work, the Department pays you the balance due of the TRO item total as specified in section 9-1.17B.

For a contract with plant establishment work, the Department pays you the balance due of the TRO item total in the 1st progress payment after all non–plant establishment work is completed.

**9-1.11E Payment Adjustments**

The 3rd paragraph of section 9-1.17C does not apply.

The Department does not adjust the unit price for an increase or decrease in the TRO quantity except as specified in section 9-1.11E.

Section 9-1.17D(2)(b) does not apply except as specified for the audit report below.

If the TRO bid item quantity exceeds 149 percent of the quantity shown on the Bid Item List or as converted under section 9-1.11B, the Engineer may adjust or you may request an adjustment of the unit price for the excess quantity. For the adjustment, submit an audit report within 60 days of the Engineer's request. The report must be prepared as specified for an audit report for an overhead claim in section 9-1.17D(2)(b).

Within 20 days of the Engineer's request, make your financial records available for an audit by the State for the purpose of verifying the actual rate of TRO described in your audit. The actual rate of TRO described is subject to the Engineer's authorization.

The Department pays the authorized actual rate for TRO in excess of 149 percent of the quantity shown on the Bid Item List or as converted under section 9-1.11B.

The Department pays for 1/2 the cost of the report; the Contractor pays for the other 1/2. The cost is determined under section 9-1.05.

10-19-12

**Delete "revised Contract" in item 1 of the 1st paragraph of section 9-1.16E(2).**

**Replace "2014" in the 1st paragraph of section 9-1.16F with:**

10-19-12

2020

**Replace the 2nd paragraph of section 9-1.17C with:**

10-19-12

Submit either a written acceptance of the proposed final estimate or a claim statement postmarked or hand delivered before the 31st day after receiving the proposed final estimate.

**Add between "the" and "final estimate" in the 1st sentence in the 3rd paragraph of section 9-1.17C:**

10-19-12

proposed

^^^

**10-6.02 WATER-FILLED COFFERDAM**

Reserved

**10-6.03–10-6.10 RESERVED**

**10-7–10-20 RESERVED**

**^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^**

# 12 TEMPORARY TRAFFIC CONTROL

04-19-13

**Replace the 1st paragraph of section 12-3.01A(4) with:**

10-19-12

Category 2 temporary traffic control devices must be on FHWA's list of acceptable, crashworthy Category 2 hardware for work zones. This list is available on FHWA's Safety Program Web site.

**Replace "project" in the 4th paragraph of section 12-3.02C with:**

10-19-12

work

**Add after "Display" in item 4 in the list in the 2nd paragraph of section 12-3.03B:**

04-19-13

or Alternating Diamond

**Replace "project" in the 3rd paragraph of section 12-3.07C with:**

10-19-12

work

**Replace the 3rd through 5th paragraphs of section 12-4.03 with:**

04-19-13

Submit closure schedules using the Department's Internet-based LCS program to show the locations and times of the proposed closures.

The Department provides LCS training. Request LCS training at least 30 days before submitting the 1st lane closure request. The Department provides the training within 15 days after your request. The training may be web based.

Except for web-based training, the training is held at a time and location you and the Engineer agree to.

For web-based training, the Engineer provides you the website address to access the training.

Within 5 business days after completion of the training, the Department provides LCS accounts and user identifications to your assigned representatives.

Each representative must maintain a unique password and current user information in the LCS.

You will be notified through LCS of unauthorized closures or closures that require coordination with other parties as a condition for authorization.

Submit closure schedule amendments using LCS, including adding additional closures, by noon at least 3 business days before a planned closure. Authorization of amendments will be at the discretion of the Engineer.

Cancel closure requests using LCS at least 48 hours before the time of the closure.

**Add between the 7th and 8th paragraphs of section 12-4.03:**

10-19-12

The contingency plan must identify the operations, equipment, processes, and materials that may fail and delay a reopening of a closure to traffic. List the additional or alternate equipment, materials, or workers necessary to ensure continuing operations and on-time opening of closures whenever a problem occurs. If the additional or alternate equipment, materials, or workers are not on site, specify their location, the method for mobilizing these items, and the required time to complete mobilization.

Based on the Engineer's review, additional materials, equipment, workers, or time to complete operations from that specified in the contingency plan may be required.

Provide a general time-scaled logic diagram displaying the major activities and sequence of planned operations that comply with the requirements of section 12-4.03. For each operation, identify the critical event when the contingency plan will be activated.

Submit any revisions to the contingency plan for an operation at least 3 business days before starting that operation. Do not close any lanes until the contingency plan has been authorized.

The 5th paragraph of section 5-1.23B(1) does not apply to reviewing contingency plans.

**Replace section 12-7 with:**

09-16-11

**12-7 RESERVED**

**^^^

**Replace "NEL violation" in item 3.6.2 in the list in the 1st paragraph of section 13-1.01D(3)(c) with:**

04-19-13

receiving water monitoring trigger

**Replace the 1st paragraph in section 13-2.01B with:**

04-19-13

Within 7 days after Contract approval, submit 2 copies of your WPCP for review. Allow 5 business days for review.

After the Engineer authorizes the WPCP, submit an electronic copy and 3 printed copies of the authorized WPCP.

If the RWQCB requires review of the authorized WPCP, the Engineer submits the authorized WPCP to the RWQCB for its review and comment. If the Engineer orders changes to the WPCP based on the RWQCB's comments, amend the WPCP within 3 business days.

**Replace the 1st paragraph in section 13-3.01B(2)(a) with:**

04-19-13

Within 15 days of Contract approval, submit 3 copies of your SWPPP for review. The Engineer provides comments and specifies the date when the review stopped if revisions are required. Change and resubmit a revised SWPPP within 15 days of receiving the Engineer's comments. The Department's review resumes when a complete SWPPP has been resubmitted.

When the Engineer authorizes the SWPPP, submit an electronic copy and 4 printed copies of the authorized SWPPP.

If the RWQCB requires review of the authorized SWPPP, the Engineer submits the authorized SWPPP to the RWQCB for its review and comment. If the Engineer requests changes to the SWPPP based on the RWQCB's comments, amend the SWPPP within 10 days.

**Replace "NELs" in item 3.1 in the 3rd paragraph of section 13-3.01B(2)(a) with:**

04-19-13

receiving water monitoring triggers

**Replace section 13-3.01B(6)(c) with:**

04-19-13

**13-3.01B(6)(c) Receiving Water Monitoring Trigger Report**

Whenever a receiving water monitoring trigger is exceeded, notify the Engineer and submit a receiving water monitoring trigger report within 48 hours after conclusion of a storm event. The report must include:

1. Field sampling results and inspections, including:
   1.1. Analytical methods, reporting units, and detection limits
   1.2. Date, location, time of sampling, visual observation and measurements
   1.3. Quantity of precipitation from the storm event
2. Description of BMPs and corrective actions

**Replace "NEL" in the 6th paragraph of section 13-3.01C(1) with:**

04-19-13

receiving water monitoring trigger

**Replace section 13-3.01C(3) with:**

04-19-13

**13-3.01C(3) Receiving Water Monitoring Trigger**

For a risk level 3 project, receiving water monitoring triggers must comply with the values shown in the following table:

**Receiving Water Monitoring Trigger**

| Parameter | Test method | Detection limit (min) | Unit | Value |
|---|---|---|---|---|
| pH | Field test with calibrated portable instrument | 0.2 | pH | Lower limit = 6.0<br>Upper limit = 9.0 |
| Turbidity | Field test with calibrated portable instrument | 1 | NTU | 500 NTU max |

The storm event daily average for storms up to the 5-year, 24-hour storm must not exceed the receiving water monitoring trigger for turbidity.

The daily average sampling results must not exceed the receiving water monitoring trigger for pH.

04-19-13

**Delete "and NELs are violated" in the 3rd paragraph of section 13-3.03C.**

**Replace "working days" at each occurrence in section 13-3.04 with.**

10-19-12

original working days

04-19-13

**Delete the 1st sentence in the 2nd paragraph of section 13-4.03C(3).**

**Add between the 2nd and 3rd paragraphs of section 13-4.03C(3):**

04-19-13

Manage stockpiles by implementing water pollution control practices on:

1. Active stockpiles before a forecasted storm event
2. Inactive stockpiles according to the WPCP or SWPPP schedule

**Replace the paragraph in section 13-4.04 with:**

04-20-12

Not Used

10-19-12

**Delete "or stockpile" in the 3rd paragraph of section 13-5.02F.**

**Replace section 13-5.03F with:**

04-20-12

**13-5.03F Reserved**

10-19-12

**Delete "or stockpile" in item 1 in the list in the 1st paragraph of section 13-5.03K.**

10-19-12

**Delete the 3rd paragraph of section 13-5.03K.**

**Replace the 2nd sentence in the 1st paragraph of section 13-9.01A with:**

10-19-12

You may use any of the following systems for temporary concrete washout:

1. Temporary concrete washout facility
2. Portable temporary concrete washout
3. Temporary concrete washout bin

**Replace the 2nd paragraph of section 13-9.01B with:**

10-19-12

Retain and submit an informational submittal for records of disposed concrete waste.

10-19-12

**Delete the 4th paragraph of section 13-9.01B.**

10-19-12

**Delete "if authorized" in the 1st sentence in the 1st paragraph of section 13-9.02A.**

**Replace "at least 3-inch" in the 3rd sentence in the 1st paragraph of section 13-9.02A with:**

10-19-12

6-inch

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 15 EXISTING FACILITIES

04-19-13

**Replace the 4th paragraph of section 15-2.10B with:**

01-18-13

Instead of using new materials similar in character to those in the existing structure, you may use raising devices to adjust a manhole to grade. Before starting paving work, measure and fabricate raising devices. Raising devices must:

1. Comply with the specifications for section 75 except that galvanizing is not required
2 Have a shape and size that matches the existing frame
3. Be match marked by painting identification numbers on the device and corresponding structure
4. Result in an installation that is equal to or better than the existing one in stability, support, and nonrocking characteristics

5. Be fastened securely to the existing frame without projections above the surface of the road or into the clear opening

**Add to the end of section 15-4.01A(2):**

04-19-13

Allow 20 days for review of the bridge removal work plan.

**Replace the 1st paragraph of section 15-5.01C(1) with:**

10-19-12

Before starting deck rehabilitation activities, complete the removal of any traffic stripes, pavement markings, and pavement markers.

**Replace the 2nd and 3rd paragraphs of section 15-5.01C(2) with:**

10-19-12

Perform the following activities in the order listed:

1. Abrasive blast the deck surface with steel shot. Perform abrasive blasting after the removal of any unsound concrete and placement of any rapid setting concrete patches.
2. Sweep the deck surface.
3. Blow the deck surface clean using high-pressure air.

**Replace the 2nd paragraph of section 15-5.01C(4) with:**

10-19-12

Before removing asphalt concrete surfacing, verify the depth of the surfacing at the supports and midspans of each structure (1) in each shoulder, (2) in the traveled way, and (3) at the roadway crown, if a crown is present.

04-19-13

**Delete "and concrete expansion dams" in the 3rd paragraph of section 15-5.01C(4).**

**Replace the 2nd paragraph of section 15-5.03A(2) with:**

10-19-12

For a contract with less than 60 original working days, submit certificates of compliance for the filler material and bonding agents.

**Replace "51-1.02C" in the 1st paragraph of section 15-5.03B with:**

04-19-13

51-1.02F

**Replace the 4th paragraph of section 15-5.03B with:**

10-19-12

For a contract with less than 60 original working days, alternative materials must be authorized before use.

**Add between the 5th and 6th paragraphs of section 15-5.03C:**

10-19-12

The final surface finish of the patched concrete surface must comply with section 51-1.03F.

10-19-12

**Delete the 4th paragraph of section 15-5.05C.**

**Replace "51-1.03F(5)" in the 3rd paragraph of section 15-5.06C(1) with:**

10-19-12

51-1.01D(4)

**Replace "51-1.03E(5)" in the 5th paragraph of section 15-5.06C(1) with:**

10-19-12

51-1.03F(5)

10-19-12

**Delete the 9th paragraph of section 15-5.06C(1).**

04-19-13

**Delete the 15th paragraph of section 15-5.06C(1).**

**Add to section 15-5.06C(1):**

10-19-12

Texture the polyester concrete surface before gelling occurs by longitudinal tining under 51-1.03F(5)(b)(iii), except do not perform initial texturing.

**Replace section 15-5.06C(2) with:**

04-19-13

**15-5.06C(2) Reserved**

04-19-13

**Delete the 3rd paragraph of section 15-5.06D.**

**Replace the 1st paragraph in section 15-5.07B(4) with:**

10-19-12

Payment for furnishing dowels is not included in the payment for core and pressure grout dowel.

**Replace section 15-5.09 with:**

04-19-13

**15-5.09 POLYESTER CONCRETE EXPANSION DAMS**

**15-5.09A General**

Section 15-5.09 includes specifications for constructing polyester concrete expansion dams.

Polyester concrete expansion dams must comply with the specifications for polyester concrete overlays in section 15-5.06, except a trial slab is not required.

Reinforcement must comply with section 52.

**15-5.09B Materials**

Not Used

**15-5.09C Construction**

For new asphalt concrete overlays, place the asphalt concrete overlay before starting polyester concrete activities. Saw cut and remove asphalt concrete at expansion dam locations.

For existing asphalt concrete overlays, remove expansion dams and asphalt concrete to the limits shown. Removing expansion dams must comply with section 15-4 except a bridge removal work plan is not required.

Where a portion of the asphalt concrete overlay is to remain, saw cut a 2-inch-deep neat line along the edge to remain in place before removing the asphalt concrete. Do not damage the existing surfacing to remain in place.

Prepare the deck surface under section 15-5.01C(2).

You may use a mechanical mixer to mix the polyester concrete for expansion dams. The mixer capacity must not exceed 9 cu ft unless authorized. Initiate the resin and thoroughly blend it immediately before mixing it with the aggregate. Mix the polyester concrete for at least 2 minutes before placing.

The application rate of methacrylate resin must be approximately 100 sq ft/gal.

You may place and finish expansion dams using hand methods.

Protect expansion dams from moisture, traffic, and equipment for at least 4 hours after finishing.

For expansion dams over 6 feet long, install 1/4-inch-wide joint material at 6-foot intervals across the width of the expansion dam. Joint material must be either expanded polyurethane or expanded polyethylene.

**15-5.09D Payment**

Not Used

**Replace the heading of section 15-6.04 with:**

01-18-13

**INVERT PAVING**

^^^

**Replace "sets" in the 3rd and 4th paragraphs of section 19-3.01A(2)(d) with:**

04-19-13

copies

**Add to section 19-3.01A(3)(b):**

01-20-12

For soil nail walls, wall zones are specified in the special provisions.

For ground anchor walls, a wall zone is the entire wall unless otherwise specified in the special provisions.

01-20-12

**Delete the 2nd sentence in the 4th paragraph of section 19-3.01A(3)(b).**

**Replace "90" in the paragraph of section 19-3.02G with:**

01-18-13

90-1

**Replace the heading of section 19-3.03C with:**

04-19-13

**19-3.03B(4) Cofferdams**

**Replace the heading of section 19-3.03D with:**

04-19-13

**19-3.03B(5) Water Control and Foundation Treatment**

**Replace the 1st paragraph of section 19-3.03E(3) with:**

01-20-12

Compact structure backfill behind lagging of soldier pile walls by hand tamping, mechanical compaction, or other authorized means.

**Replace the 2nd paragraph of section 19-3.03F with:**

01-20-12

Do not backfill over or place material over slurry cement backfill until 4 hours after placement. When concrete sand is used as aggregate and the in-place material is free draining, you may start backfilling as soon as the surface water is gone.

**Add between the 2nd and 3rd paragraphs of section 19-3.03K:**

01-20-12

Before you excavate for the installation of ground anchors in a wall zone:

1. Complete stability testing
2. Obtain authorization of test data

**Replace the 2nd sentence of the 7th paragraph of section 19-3.03K:**

01-20-12

Stop construction in unstable areas until remedial measures have been taken. Remedial measures must be submitted and authorized.

**Add between the 8th and 9th paragraphs of section 19-3.03K:**

01-20-12

When your excavation and installation methods result in a discontinuous wall along any soil nail row, the ends of the structurally completed wall section must extend beyond the ends of the next lower excavation lift by a distance equal to twice the lift height. Maintain temporary slopes at the ends of each wall section to ensure slope stability.

**Replace the 9th paragraph of section 19-3.03K:**

01-20-12

Do not excavate to the next underlying excavation lift until the following conditions have been attained for the portion of the soil nail or ground anchor wall in the current excavation lift:

1. Soil nails or ground anchors are installed and grouted.
2. Reinforced shotcrete facing is constructed.

01-18-13

3. Grout and shotcrete have cured for at least 72 hours.

01-20-12

4. Specified tests are complete for that portion of wall and the results are authorized.
5. Soil nail facing anchorages are attached or ground anchors are locked off.

**Replace the 2nd sentence in the 7th paragraph of section 19-3.04 with:**

01-18-13

Structure excavation more than 0.5 foot from the depth shown is paid for as a work-character change if you request an adjustment or the Engineer orders an adjustment.

**Replace "Contract completion time" in the 8th paragraph of section 19-6.03D with:**

10-19-12

work completion date

**Add to section 19:**

01-18-13

**19-10–19-20 RESERVED**

**^^^

**Replace "and handling" in the 1st paragraph of section 20-7.03A with:**

10-19-12

handling, and preparing holes

**Replace the 1st paragraph of section 20-7.03D with:**

10-19-12

The location of all plants is as shown unless the Engineer designates otherwise. If the Engineer designates the location of plants, the location will be marked by stakes, flags, or other markers.

**Replace item 1 in the list in the 1st paragraph of section 20-7.03I(1) with:**

10-19-12

1. Preparing holes and planting plants

10-19-12

**Delete "Prepare Hole," in the last paragraph of section 20-7.04.**

**^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^**

# 21 EROSION CONTROL

04-19-13

**Replace ", bonded fiber matrix, and polymer-stabilized fiber matrix" in the 1st paragraph of section 21-1.01B with:**

04-20-12

and bonded fiber matrix

04-20-12

**Delete the last paragraph of section 21-1.02E.**

**Replace section 21-1.02F(2) with:**

04-20-12

**21-1.02F(2) Reserved**

**Replace section 21-1.02J with:**

04-20-12

**21-1.02J Reserved**

**Replace the row for organic matter content in the table in the 4th paragraph of section 21-1.02M with:**

01-18-13

| | | |
|---|---|---|
| Organic matter content | TMECC 05.07-A<br>Loss-on-ignition organic matter method (LOI)<br>% dry weight basis | 30–100 |

**Replace the paragraph in section 21-1.02P with:**

10-19-12

Fiber roll must be a premanufactured roll filled with rice or wheat straw, wood excelsior, or coconut fiber. Fiber roll must be covered with biodegradable jute, sisal, or coir fiber netting secured tightly at each end and must be one of the following:

1. 8 to 10 inches in diameter and at least 1.1 lb/ft
2. 10 to 12 inches in diameter and at least 3 lb/ft

Fiber roll must have a minimum functional longevity of 1 year.

**Add between the 1st and 2nd paragraphs of section 21-1.03A:**

01-18-13

Remove and dispose of trash, debris, and weeds in areas to receive erosion control materials.

Remove and dispose of loose rocks larger than 2-1/2 inches in maximum dimension unless otherwise authorized.

Protect the traveled way, sidewalks, lined drainage channels, and existing vegetation from overspray of hydraulically-applied material.

**Replace section 21-1.03B with:**

01-18-13

**21-1.03B Reserved**

**Replace "3 passes" in item 2 in the list in the 2nd paragraph of section 21-1.03G with:**

04-19-13

2 passes

**Replace section 21-1.03I with:**

04-20-12

**21-1.03I Reserved**

**Add between the 4th and 5th paragraphs of section 21-1.03P:**

10-19-12

If soil conditions do not permit driving the stakes into the soil, drill pilot holes to facilitate driving of the stakes.

01-18-13

**Delete the 1st and 2nd sentences of the 3rd paragraph in section 21-1.04.**

^^^

# DIVISION IV SUBBASES AND BASES

## 29 TREATED PERMEABLE BASES

04-20-12

**Replace "section 68-4.02C" in the 6th paragraph of section 29-1.03A with:**

04-20-12

section 64-4.03

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

**Replace section 30 with:**

04-20-12

## 30 RECLAIMED PAVEMENTS

04-20-12

### 30-1 GENERAL

**30-1.01 GENERAL**

Section 30 includes specifications for reclaiming the pavement section and constructing a base.

### 30-2 FULL DEPTH RECLAIMED—FOAMED ASPHALT

Reserved

### 30-3–30-6 RESERVED

^^^^^^^^^^^^^^^^^^^

2. Paving construction foreman
3. Traffic control foreman

Be prepared to discuss:

1. Quality control
2. Acceptance testing
3. Placement
4. Training on placement methods
5. Checklist of items for proper placement
6. Unique issues specific to the project, including:
   6.1. Weather
   6.2. Alignment and geometrics
   6.3. Traffic control issues
   6.4. Haul distances
   6.5. Presence and absence of shaded areas
   6.6. Any other local issues

**37-1.02 MATERIALS**

Not Used

**37-1.03 CONSTRUCTION**

Not Used

**37-1.04 PAYMENT**

Not Used

**Replace "Reserved" in section 37-2.01D(1) with:**

01-18-13

Aggregate suppliers, chip spreader operators, emulsion distributor, and for coated chips, the coated chips producer must attend the prepaving conference.

**Add to section 37-2.03A:**

04-20-12

If you fail to place the permanent traffic stripes and pavement markings within the specified time, the Department withholds 50 percent of the estimated value of the seal coat work completed that has not received permanent traffic stripes and pavement markings.

**Add to section 37-3.01D(1):**

01-18-13

Micro-surfacing spreader operators must attend the prepaving conference.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 39 HOT MIX ASPHALT

02-22-13

**Add to section 39-1.01B:**

02-22-13

**processed RAP:** RAP that has been fractionated.

**substitution rate:** Amount of RAP aggregate substituted for virgin aggregate in percent.

**binder replacement:** Amount of RAP binder in OBC in percent.

**surface course:** Upper 0.2 feet of HMA exclusive of OGFC.

**Add to the end of the paragraph in section 39-1.02A:**

10-19-12

as shown

**Replace the paragraphs in section 39-1.02F with:**

02-22-13

**39-1.02F(1) General**

You may produce HMA Type A or B using RAP. HMA produced using RAP must comply with the specifications for HMA, except aggregate quality specifications do not apply to RAP. You may substitute RAP at a substitution rate not exceeding 25 percent of the aggregate blend. Do not use RAP in OGFC and RHMA-G.

Assign the substitution rate of RAP aggregate for virgin aggregate with the JMF submittal. The JMF must include the percent of RAP used.

Provide enough space for meeting RAP handling requirements at your facility. Provide a clean, graded, well-drained area for stockpiles. Prevent material contamination and segregation.

If RAP is from multiple sources, blend the RAP thoroughly and completely. RAP stockpiles must be homogeneous.

Isolate the processed RAP stockpiles from other materials. Store processed RAP in conical or longitudinal stockpiles. Processed RAP must not be agglomerated or be allowed to congeal in large stockpiles.

AASHTO T 324 (Modified) is AASHTO T 324, "Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)," with the following parameters:

1. Target air voids must equal 7 ± 1 percent
2. Number of test specimens must be 4
3. Test specimen must be a 6-inch gyratory compacted specimen
4. Test temperature must be set at 140 ± 2 degrees F
5. Measurements for impression must be taken at every 100 passes
6. Inflection point defined as the number of wheel passes at the intersection of the creep slope and the stripping slope
7. Testing shut off must be set at 25,000 passes

**39-1.02F(2) Substitution Rate of 15 Percent or Less**

For a RAP substitution rate of 15 percent or less, you may stockpile RAP during the entire project.

**39-1.02F(3) Substitution Rate Greater than 15 Percent**

For a RAP substitution rate greater than 15 percent, fractionate RAP into 2 sizes, a coarse fraction RAP retained on 1/4-inch screen and a fine fraction RAP passing 1/4-inch screen.

Sample and test processed RAP at a minimum frequency of 1 sample per 1000 tons with a minimum of 6 samples for each processed RAP stockpile. The asphalt binder content and specific gravity must meet the processed RAP quality characteristics. If a processed RAP stockpile is augmented, sample and test processed RAP quality characteristics at a minimum frequency of 1 sample per 500 tons of augmented RAP.

The processed RAP asphalt binder content must be within ± 2.0 percent of the average processed RAP stockpile asphalt binder content when tested under ASTM D 2172, Method B. If a new processed RAP stockpile is required, the average binder content of the new processed RAP stockpile must be within ± 2.0 percent of the average binder content of the original processed RAP stockpile.

The maximum specific gravity for processed RAP must be within ± 0.06 when tested under California Test 309 of the average maximum specific gravity reported on page 4 of your *Contractor Hot Mix Asphalt Design Data* form.

**Replace "less than 10 percent" in note "b" in the table in the 5th paragraph of section 39-1.02E with:**

01-20-12

10 percent or less

**Replace items 7 and 8 in the 5th paragraph of section 39-1.03A with:**

02-22-13

7. Substitution rate by more than 5 percent if your assigned RAP substitution rate is 15 percent or less
8. Substitution rate by more than 3 percent if your assigned RAP substitution rate is greater than 15 percent
9. Average binder content by more than 2 percent from the average binder content of the original processed RAP stockpile used in the mix design
10. Maximum specific gravity of processed RAP by more than ±0.060 from the average maximum specific gravity of processed RAP reported on page 4 of your *Contractor Hot Mix Asphalt Design Data* form
11. Any material in the JMF

**Replace the 1st paragraph of section 39-1.03B with:**

02-22-13

Perform a mix design that produces HMA with the values for the quality characteristics shown in the following table:

**HMA Mix Design Requirements**

| Quality characteristic | Test method | HMA type | | |
|---|---|---|---|---|
| | | A | B | RHMA-G |
| Air void content (%) | California Test 367 | 4.0 | 4.0 | Section 39-1.03B |
| Voids in mineral aggregate (% min.) | California Test 367 | | | |
| No. 4 grading | | 17.0 | 17.0 | -- |
| 3/8" grading | | 15.0 | 15.0 | -- |
| 1/2" grading | | 14.0 | 14.0 | 18.0–23.0 |
| 3/4" grading | | 13.0 | 13.0 | 18.0–23.0 |
| Voids filled with asphalt (%) | California Test 367 | | | Note a |
| No. 4 grading | | 65.0–75.0 | 65.0–75.0 | |
| 3/8" grading | | 65.0–75.0 | 65.0–75.0 | |
| 1/2" grading | | 65.0–75.0 | 65.0–75.0 | |
| 3/4" grading | | 65.0–75.0 | 65.0–75.0 | |
| Dust proportion | California Test 367 | | | Note a |
| No. 4 and 3/8" gradings | | 0.6–1.2 | 0.6–1.2 | |
| 1/2" and 3/4" gradings | | 0.6–1.2 | 0.6–1.2 | |
| Stabilometer value (min.) | California Test 366 | | | |
| No. 4 and 3/8" gradings | | 30 | 30 | -- |
| 1/2" and 3/4" gradings | | 37 | 35 | 23 |

[a] Report this value in the JMF submittal.

For RAP substitution rate greater than 15 percent, the mix design must comply with the additional quality characteristics shown in the following table:

**Additional HMA Mix Design Requirements**
**for RAP Substitution Rate Greater Than 15 Percent**

| Quality characteristic | Test method | HMA type | | |
|---|---|---|---|---|
| | | A | B | RHMA-G |
| Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) | AASHTO T 324 (Modified)[a] | | | |
| PG-58 | | 10,000 | 10,000 | -- |
| PG-64 | | 15,000 | 15,000 | |
| PG-70 | | 20,000 | 20,000 | |
| PG-76 or higher | | 25,000 | 25,000 | |
| Hamburg wheel track (inflection point minimum number of passes) | AASHTO T 324 (Modified)[a] | | | |
| PG-58 | | 10,000 | 10,000 | -- |
| PG-64 | | 10,000 | 10,000 | |
| PG-70 | | 12,500 | 12,500 | |
| PG-76 or higher | | 15000 | 15000 | |
| Moisture susceptibility (minimum dry strength, psi) | California Test 371[a] | 120 | 120 | -- |
| Moisture susceptibility (tensile strength ration, %) | California Test 371[a] | 70 | 70 | -- |

[a]Test plant produced HMA.

For HMA with RAP, the maximum binder replacement must be 25.0 percent of OBC for surface course and 40.0 percent of OBC for lower courses.

For HMA with a binder replacement less than or equal to 25 percent of OBC, you may request that the PG asphalt binder grade with upper and lower temperature classifications be reduced by 6 degrees C from the specified grade.

For HMA with a binder replacement greater than 25 percent but less than or equal to 40 percent of OBC, you must use a PG asphalt binder grade with upper and lower temperature classifications reduced by 6 degrees C from the specified grade.

**Replace item 4 in the list in the 1st paragraph of section 39-1.03C with:**

01-20-12

4. JMF renewal on a *Caltrans Job Mix Formula Renewal* form, if applicable

**Add after the last paragraph of section 39-1.03C:**

02-22-13

For RAP substitution rate greater than 15 percent, submit with the JMF submittal:

1. California Test 371 tensile strength ratio and minimum dry strength test results
2. AASHTO T 324 (Modified) test results

For RAP substitution rate greater than 15 percent, submit California Test 371 and AASHTO T 324 (Modified) test results to the Engineer and to:

Moisture_Tests@dot.ca.gov

**Replace the 2nd paragraph of section 39-1.03E with:**

04-20-12

Use the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. No adjustments to asphalt binder content are allowed. Based on your testing and production experience, you may submit an adjusted aggregate gradation TV on a *Contractor Job Mix Formula Proposal* form before verification testing. Aggregate gradation TV must be within the TV limits specified in the aggregate gradation tables.

**Add between the 3rd and 4th paragraphs of section 39-1.03E:**

04-20-12

Asphalt binder set point for HMA must be the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. When RAP is used, asphalt binder set point for HMA must be:

$$\text{Asphalt Binder Set Point} = \frac{\dfrac{BC_{OBC}}{\left(1 - \dfrac{BC_{OBC}}{100}\right)} - R_{RAP}\left[\dfrac{BC_{RAP}}{\left(1 - \dfrac{BC_{RAP}}{100}\right)}\right]}{100 + \dfrac{BC_{OBC}}{\left(1 - \dfrac{BC_{OBC}}{100}\right)}}$$

Where:
$BC_{OBC}$ = optimum asphalt binder content, percent based on total weight of mix
$R_{RAP}$ = RAP ratio by weight of aggregate
$BC_{RAP}$ = asphalt binder content of RAP, percent based on total weight of RAP mix

**Replace item 4 in the list in the 8th paragraph of section 39-1.03E with:**

04-20-12

4. HMA quality specified in the table titled "HMA Mix Design Requirements" except:
   4.1. Air void content, design value ±2.0 percent
   4.2. Voids filled with asphalt, report only
   4.3. Dust proportion, report only

**Replace the 12th paragraph of section 39-1.03E with:**

04-20-12

If tests on plant-produced samples do not verify the JMF, the Engineer notifies you and you must submit a new JMF or submit an adjusted JMF based on your testing. JMF adjustments may include a change in aggregate gradation TV within the TV limits specified in the aggregate gradation tables.

**Replace the 14th paragraph of section 39-1.03E with:**

01-20-12

A verified JMF is valid for 12 months.

**Replace the last sentence in the 15th paragraph of section 39-1.03E with:**

01-20-12

This deduction does not apply to verifications initiated by the Engineer or JMF renewal.

**Replace the 16th paragraph of section 39-1.03E with:**

02-22-13

Except for RAP substitution rate greater than 15 percent, for any HMA produced under the QC/QA process the Department does not use California Test 371 test results for verification.

**Add between the 1st and 2nd paragraphs of section 39-1.03F:**

04-20-12

Target asphalt binder content on your Contractor *Job Mix Formula Proposal* form and the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form must be the same.

01-20-12

**Delete the 4th paragraph of section 39-1.03F.**

**Replace items 3 and 5 in the list in the 6th paragraph of section 39-1.03F with:**

01-20-12

3. Engineer verifies each proposed JMF renewal within 20 days of receiving verification samples.
5. For each HMA type and aggregate gradation specified, the Engineer verifies at the Department's expense 1 proposed JMF renewal within a 12-month period.

**Add between the 6th and 7th paragraphs of section 39-1.03F:**

01-20-12

The most recent aggregate quality test results within the past 12 months may be used for verification of JMF renewal or the Engineer may perform aggregate quality tests for verification of JMF renewal.

**Replace section 39-1.03G with:**

04-20-12

**39-1.03G Job Mix Formula Modification**

For an accepted JMF, you may change asphalt binder source one time during production.

Submit your modified JMF request a minimum of 3 business days before production. Each modified JMF submittal must consist of:

1. Proposed modified JMF on *Contractor Job Mix Formula Proposal* form
2. Mix design records on *Contractor Hot Mix Asphalt Design Data* form for the accepted JMF to be modified
3. JMF verification on *Hot Mix Asphalt Verification* form for the accepted JMF to be modified
4. Quality characteristics test results for the modified JMF as specified in section 39-1.03B. Perform tests at the mix design OBC as shown on the *Contractor Asphalt Mix Design Data* form
5. If required, California Test 371 test results for the modified JMF.

With an accepted modified JMF submittal, the Engineer verifies each modified JMF within 5 business days of receiving all verification samples. If California Test 371 is required, the Engineer tests for California Test 371 within 10 days of receiving verification samples.

The Engineer verifies the modified JMF after the modified JMF HMA is placed on the project and verification samples are taken within the first 750 tons following sampling requirements in section 39-1.03E, "Job Mix Formula Verification." The Engineer tests verification samples for compliance with:

1. Stability as shown in the table titled "HMA Mix Design Requirements"
2. Air void content at design value ±2.0 percent
3. Voids in mineral aggregate as shown in the table titled "HMA Mix Design Requirements"
4. Voids filled with asphalt, report only

5. Dust proportion, report only

If the modified JMF is verified, the Engineer revises your *Hot Mix Asphalt Verification* form to include the new asphalt binder source. Your revised form will have the same expiration date as the original form.

If a modified JMF is not verified, stop production and any HMA placed using the modified JMF is rejected.

The Engineer deducts $2,000 from payments for each modified JMF verification. The Engineer deducts an additional $2,000 for each modified JMF verification that requires California Test 371.

**Add to section 39-1.03:**

01-20-12

**39-1.03H Job Mix Formula Acceptance**

You may start HMA production if:

1. The Engineer's review of the JMF shows compliance with the specifications.
2. The Department has verified the JMF within 12 months before HMA production.
3. The Engineer accepts the verified JMF.

**Replace "3 days" in the 1st paragraph of section 39-1.04A with:**

01-20-12

3 business days

**Replace the 2nd sentence in the 2nd paragraph of section 39-1.04A with:**

01-20-12

During production, take samples under California Test 125. You may sample HMA from:

**Replace the 2nd paragraph of section 39-1.04E with:**

02-22-13

For RAP substitution rate of 15 percent or less, sample RAP once daily.

For RAP substitution rate of greater than 15percent, sample processed RAP twice daily.

Perform QC testing for processed RAP aggregate gradation under California Test 367, appendix B, and submit the results with the combined aggregate gradation.

**Replace "5 days" in the 1st paragraph of section 39-1.06 with:**

01-20-12

5 business days

**Replace the 3rd paragraph of section 39-1.08A with:**

04-20-12

During production, you may adjust hot or cold feed proportion controls for virgin aggregate and RAP.

**Add to section 39-1.08A:**

04-20-12

During production, asphalt binder set point for HMA Type A, HMA Type B, HMA Type C, and RHMA-G must be the OBC shown in *Contractor Hot Mix Asphalt Design Data* form. For OGFC, asphalt binder set

point must be the OBC shown on *Caltrans Hot Mix Asphalt Verification* form. If RAP is used, asphalt binder set point for HMA must be calculated as specified in section 39-1.03E.

02-22-13

For RAP substitution rate of 15 percent or less, you may adjust the RAP by ±5 percent.

For RAP substitution greater than 15, you may adjust the RAP by ±3 percent.

04-20-12

You must request adjustments to the plant asphalt binder set point based on new RAP stockpiles average asphalt binder content. Do not adjust the HMA plant asphalt binder set point until authorized.

**Replace the 3rd paragraph of section 39-1.08B with:**

09-16-11

Asphalt rubber binder must be from 375 to 425 degrees F when mixed with aggregate.

**Replace section 39-1.11 with:**

01-18-13

## 39-1.11 CONSTRUCTION

### 39-1.11A General

Do not place HMA on wet pavement or a frozen surface.

You may deposit HMA in a windrow and load it in the paver if:

1. Paver is equipped with a hopper that automatically feeds the screed
2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without damaging base material
3. Activities for deposit, pickup, loading, and paving are continuous
4. HMA temperature in the windrow does not fall below 260 degrees F

You may place HMA in 1 or more layers on areas less than 5 feet wide and outside the traveled way, including shoulders. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture.

HMA handled, spread, or windrowed must not stain the finished surface of any improvement, including pavement.

Do not use petroleum products such as kerosene or diesel fuel to release HMA from trucks, spreaders, or compactors.

HMA must be free of:

1. Segregation
2. Coarse or fine aggregate pockets
3. Hardened lumps

### 39-1.11B Longitudinal Joints

#### 39-1.11B(1) General

Longitudinal joints in the top layer must match specified lane edges. Alternate the longitudinal joint offsets in the lower layers at least 0.5 foot from each side of the specified lane edges. You may request other longitudinal joint placement patterns.

A vertical longitudinal joint of more than 0.15 ft is not allowed at any time between adjacent lanes open to traffic.

For HMA thickness of 0.15 ft or less, the distance between the ends of the adjacent surfaced lanes at the end of each day's work must not be greater than can be completed in the following day of normal paving.

For HMA thickness greater than 0.15 ft, you must place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

**39-1.11B(2) Tapered Notched Wedge**

For divided highways with an HMA lift thickness greater than 0.15 foot, you may construct a 1-foot wide tapered notched wedge joint as a longitudinal joint between adjacent lanes open to traffic. A vertical notch of 0.75 inch maximum must be placed at the top and bottom of the tapered wedge.

The tapered notched wedge must retain its shape while exposed to traffic. Pave the adjacent lane within 1 day.

Construct the tapered portion of the tapered notched wedge with an authorized strike-off device. The strike-off device must provide a uniform slope and must not restrict the main screed of the paver.

You may use a device attached to the screed to construct longitudinal joints that will form a tapered notched wedge in a single pass. The tapered notched wedge must be compacted to a minimum of 91 percent compaction.

Perform QC testing on the completed tapered notch wedge joint as follows:

1. Perform field compaction tests at the rate of 1 test for each 750-foot section along the joint. Select random locations for testing within each 750-foot section.
2. Perform field compaction tests at the centerline of the joint, 6 inches from the upper vertical notch, after the adjacent lane is placed and before opening the pavement to traffic.
3. Determine maximum density test results.
4. Determine percent compaction of the longitudinal joint as the ratio of the average of the field compaction values and the maximum density test results.

For HMA under QC/QA construction process, the additional quality control compaction results associated with the tapered notch wedge will not be included in the computation of any quality factor and process control.

For acceptance of the completed tapered notch wedge joint, take two 4- or 6-inch diameter cores 6 inches from the upper vertical notch of the completed longitudinal joint for every 3,000 feet at locations designated by the Engineer. Take cores after the adjacent lane is placed and before opening the pavement to traffic. Cores must be taken in the presence of the Engineer and must be marked to identify the test sites. Submit the cores. One core will be used for determination of the field density and 1 core will be used for dispute resolution. The Engineer determines:

1. Field compaction by measuring the bulk specific gravity of the cores under California Test 308, Method A
2. Percent compaction as the ratio of the average of the bulk specific gravity of the core for each day's production to the maximum density test value

For HMA under QC/QA construction process, the additional quality assurance testing by the Engineer to determine field compaction associated with the tapered notch wedge will not be included in the Engineer's verification testing and in the computation of any quality factor and process control.

Determine percent compaction values each day the joint is completed and submit values within 24 hours of testing. If the percent compaction of 1 day's production is less than 91 percent, that day’s notched wedge joint is rejected. Discontinue placement of the tapered notched wedge and notify the Engineer of changes you will make to your construction process in order to meet the specifications.

For HMA under QC/QA construction process, quantities of HMA placed in the completed longitudinal joint will have a quality factor $QF_{QC5}$ of 1.0.

### 39-1.11C Widening Existing Pavement

If widening existing pavement, construct new pavement structure to match the elevation of the existing pavement's edge before placing HMA over the existing pavement.

### 39-1.11D Shoulders, Medians, and Other Road Connections

Until the adjoining through lane's top layer has been paved, do not pave the top layer of:

1. Shoulders
2. Tapers
3. Transitions
4. Road connections
5. Driveways
6. Curve widenings
7. Chain control lanes
8. Turnouts
9. Turn pockets

If the number of lanes changes, pave each through lane's top layer before paving a tapering lane's top layer. Simultaneous to paving a through lane's top layer, you may pave an adjoining area's top layer, including shoulders. Do not operate spreading equipment on any area's top layer until completing final compaction.

### 39-1.11E Leveling

If leveling with HMA is specified, fill and level irregularities and ruts with HMA before spreading HMA over the base, existing surfaces, or bridge decks. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture. HMA used to change an existing surface's cross slope or profile is not paid for as HMA (leveling).

If placing HMA against the edge of existing pavement, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material.

### 39-1.11F Compaction

Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving. Complete finish rolling activities before the pavement surface temperature is:

1. Below 150 degrees F for HMA with unmodified binder
2. Below 140 degrees F for HMA with modified binder
3. Below 200 degrees F for RHMA-G

If a vibratory roller is used as a finish roller, turn the vibrator off.

Do not use a pneumatic-tired roller to compact RHMA-G.

For Standard and QC/QA construction processes, if 3/4-inch aggregate grading is specified, you may use a 1/2-inch aggregate grading if the specified total paved thickness is at least 0.15 foot and less than 0.20 foot thick.

Spread and compact HMA under sections 39-3.03 and 39-3.04 if any of the following applies:

1. Specified paved thickness is less than 0.15 foot.
2. Specified paved thickness is less than 0.20 foot and 3/4-inch aggregate grading is specified and used.
3. You spread and compact at:
   - 3.1. Asphalt concrete surfacing replacement areas
   - 3.2. Leveling courses
   - 3.3. Areas for which the Engineer determines conventional compaction and compaction measurement methods are impeded

Do not open new HMA pavement to public traffic until its mid-depth temperature is below 160 degrees F.

If you request and if authorized, you may cool HMA Type A and Type B with water when rolling activities are complete. Apply water under section 17-3.

Spread sand at a rate from 1 to 2 lb/sq yd on new RHMA-G, RHMA-O, and RHMA-O-HB pavement when finish rolling is complete. Sand must be free of clay or organic matter. Sand must comply with section 90-1.02C(4)(c). Keep traffic off the pavement until spreading sand is complete.

**Replace the 5th and 6th paragraphs of section 39-1.12C with:**

07-20-12

On tangents and horizontal curves with a centerline radius of curvature 2,000 feet or more, the $PI_0$ must be at most 2.5 inches per 0.1-mile section.

On horizontal curves with a centerline radius of curvature between 1,000 feet and 2,000 feet including pavement within the superelevation transitions, the $PI_0$ must be at most 5 inches per 0.1-mile section.

**Add to section 39-1.12:**

01-20-12

**39-1.12E Reserved**

**Add to section 39-1.14:**

01-20-12

Prepare the area to receive HMA for miscellaneous areas and dikes, including any excavation and backfill as needed.

**Replace "6.8" in item 3 in the list in the 4th paragraph of section 39-1.14 with:**

04-20-12

6.4

**Replace "6.0" in item 3 in the list in the 4th paragraph of section 39-1.14 with:**

04-20-12

5.7

**Replace "6.8" in the 1st paragraph of section 39-1.15B with:**

04-20-12

6.4

**Replace "6.0" in the 1st paragraph of section 39-1.15B with:**

04-20-12

5.7

**Replace the 1st paragraph of section 39-2.02B with:**

02-22-13

Perform sampling and testing at the specified frequency for the quality characteristics shown in the following table:

**Minimum Quality Control—Standard Construction Process**

| Quality characteristic | Test method | Minimum sampling and testing frequency | HMA type | | | |
|---|---|---|---|---|---|---|
| | | | A | B | RHMA-G | OGFC |
| Aggregate gradation[a] | California Test 202 | 1 per 750 tons and any remaining part at the end of the project | JMF ± Tolerance[b] | JMF ± Tolerance[b] | JMF ± Tolerance[b] | JMF ± Tolerance[b] |
| Sand equivalent (min)[c] | California Test 217 | | 47 | 42 | 47 | -- |
| Asphalt binder content (%) | California Test 379 or 382 | | JMF±0.40 | JMF±0.40 | JMF ± 0.40 | JMF ± 0.40 |
| HMA moisture content (%, max) | California Test 226 or 370 | 1 per 2,500 tons but not less than 1 per paving day | 1.0 | 1.0 | 1.0 | 1.0 |
| Field compaction (% max. theoretical density)[d,e] | QC plan | 2 per business day (min.) | 91–97 | 91–97 | 91–97 | -- |
| Stabilometer value (min)[c] | California Test 366 | 1 per 4,000 tons or 2 per 5 business days, whichever is greater | | | | |
| No. 4 and 3/8" gradings | | | 30 | 30 | -- | -- |
| 1/2" and 3/4" gradings | | | 37 | 35 | 23 | -- |
| Air void content (%)[c, f] | California Test 367 | | 4 ± 2 | 4 ± 2 | TV ± 2 | -- |
| Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants[g] | California Test 226 or 370 | 2 per day during production | -- | -- | -- | -- |
| Percent of crushed particles coarse aggregate (%, min) | California Test 205 | As designated in the QC plan. At least once per project | | | | |
| One fractured face | | | 90 | 25 | -- | 90 |
| Two fractured faces | | | 75 | -- | 90 | 75 |
| Fine aggregate (%, min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face | | | 70 | 20 | 70 | 90 |
| Los Angeles Rattler (%, max) Loss at 100 rev. | California Test 211 | | 12 | -- | 12 | 12 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Loss at 500 rev. | | | 45 | 50 | 40 | 40 |
| Flat and elongated particles (%, max by weight @ 5:1) | California Test 235 | | Report only | Report only | Report only | Report only |
| Fine aggregate angularity (%, min)[h] | California Test 234 | | 45 | 45 | 45 | -- |
| Voids filled with asphalt (%)[i]<br>No. 4 grading<br>3/8" grading<br>1/2" grading<br>3/4" grading | California Test 367 | | <br><br>65.0–75.0<br>65.0–75.0<br>65.0–75.0<br>65.0–75.0 | <br><br>65.0–75.0<br>65.0–75.0<br>65.0–75.0<br>65.0–75.0 | Report only | -- |
| Voids in mineral aggregate (% min)[i]<br>No. 4 grading<br>3/8" grading<br>1/2" grading<br>3/4" grading | California Test 367 | | <br><br>17.0<br>15.0<br>14.0<br>13.0 | <br><br>17.0<br>15.0<br>14.0<br>13.0 | <br><br>--<br>--<br>18.0–23.0<br>18.0–23.0 | -- |
| Dust proportion[i]<br>No. 4 and 3/8" gradings<br>1/2" and 3/4" gradings | California Test 367 | | <br>0.6-1.2<br><br>0.6–1.2 | <br>0.6-1.2<br><br>0.6–1.2 | Report only | -- |
| Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)[j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | 1 per 10,000 tons or 1 per project whichever is more | <br><br>10,000<br>15,000<br>20,000<br>25,000 | <br><br>10,000<br>15,000<br>20,000<br>25,000 | -- | -- |
| Hamburg wheel track (inflection point minimum number of passes)[j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | 1 per 10,000 tons or 1 per project whichever is more | <br><br>10,000<br>10,000<br>12,500<br>15000 | <br><br>10,000<br>10,000<br>12,500<br>15000 | -- | -- |
| Moisture susceptibility (minimum dry strength, psi)[j] | California Test 371 | For RAP ≥15% 1 per 10,000 tons or 1 per project whichever is greater | 120 | 120 | -- | -- |
| Moisture susceptibility (tensile strength ration, %)[j] | California Test 371 | For RAP ≥15% 1 per 10,000 tons or 1 | 70 | 70 | -- | -- |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | per project whichever is greater | | | | |
| Smoothness | Section 39-1.12 | -- | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ |
| Asphalt rubber binder viscosity @ 375 °F, centipoises | Section 39-1.02D | Section 39-1.04C | -- | -- | 1,500–4,000 | 1,500–4,000 |
| Asphalt modifier | Section 39-1.02D | Section 39-1.04C | -- | -- | Section 39-1.02D | Section 39-1.02D |
| CRM | Section 39-1.02D | Section 39-1.04C | -- | -- | Section 39-1.02D | Section 39-1.02D |

[a] Determine combined aggregate gradation containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] Report the average of 3 tests from a single split sample.
[d] Determine field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

[e] To determine field compaction use:

1. In-place density measurements using the method specified in your QC plan.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

[f] Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
[g] For adjusting the plant controller at the HMA plant.
[h] The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[i] Report only.
[j] Applies to RAP substitution rate greater than 15 percent.

**Replace the 1st paragraph of section 39-2.03A with:**

02-22-13

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

**HMA Acceptance—Standard Construction Process**

| Quality characteristic | Test method | HMA type | | | |
|---|---|---|---|---|---|
| | | A | B | RHMA-G | OGFC |
| Aggregate gradation [a] | California Test 202 | JMF ± tolerance [c] | JMF ± tolerance [c] | JMF ± tolerance [c] | JMF ± tolerance [c] |
| Sieve / 3/4" / 1/2" / 3/8" | | | | | |
| 1/2" / X [b] / | | | | | |
| 3/8" / | X | | | | |
| No. 4 / | | X | | | |
| No. 8 / X | X | X | | | |
| No. 200 / X | X | X | X | | |
| Sand equivalent (min) [d] | California Test 217 | 47 | 42 | 47 | -- |
| Asphalt binder content (%) | California Test 379 or 382 | JMF±0.40 | JMF±0.40 | JMF ± 0.40 | JMF ± 0.40 |
| HMA moisture content (%, max) | California Test 226 or 370 | 1.0 | 1.0 | 1.0 | 1.0 |
| Field compaction (% max. theoretical density) [e, f] | California Test 375 | 91–97 | 91–97 | 91–97 | -- |
| Stabilometer value (min)[d,] | California Test 366 | | | | |
| No. 4 and 3/8" gradings | | 30 | 30 | -- | -- |
| 1/2" and 3/4" gradings | | 37 | 35 | 23 | -- |
| Air void content (%) [d, g] | California Test 367 | 4 ± 2 | 4 ± 2 | TV ± 2 | -- |
| Percent of crushed particles | California Test 205 | | | | |
| Coarse aggregate (%, min) | | | | | |
| One fractured face | | 90 | 25 | -- | 90 |
| Two fractured faces | | 75 | -- | 90 | 75 |
| Fine aggregate (%, min) (Passing no. 4 sieve and retained on no. 8 sieve.) | | | | | |
| One fractured face | | 70 | 20 | 70 | 90 |
| Los Angeles Rattler (%, max) | California Test 211 | | | | |
| Loss at 100 rev. | | 12 | -- | 12 | 12 |
| Loss at 500 rev. | | 45 | 50 | 40 | 40 |
| Fine aggregate angularity (%, min)[h] | California Test 234 | 45 | 45 | 45 | -- |
| Flat and elongated particles (%, max by weight @ 5:1) | California Test 235 | Report only | Report only | Report only | Report only |
| Voids filled with asphalt (%) [i] | California Test 367 | | | | |
| No. 4 grading | | 65.0–75.0 | 65.0–75.0 | Report only | -- |
| 3/8" grading | | 65.0–75.0 | 65.0–75.0 | | |
| 1/2" grading | | 65.0–75.0 | 65.0–75.0 | | |
| 3/4" grading | | 65.0–75.0 | 65.0–75.0 | | |
| Voids in mineral aggregate (% min) [i] | California Test 367 | | | | |
| No. 4 grading | | 17.0 | 17.0 | -- | -- |
| 3/8" grading | | 15.0 | 15.0 | -- | |
| 1/2" grading | | 14.0 | 14.0 | 18.0–23.0 | |
| 3/4" grading | | 13.0 | 13.0 | 18.0–23.0 | |
| Dust proportion [i] | California | | | Report only | -- |

| | | | | | |
|---|---|---|---|---|---|
| No. 4 and 3/8" gradings<br>1/2" and 3/4" gradings | Test 367 | 0.6-1.2<br>0.6–1.2 | 0.6-1.2<br>0.6–1.2 | | |
| Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)[j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | 10,000<br>15,000<br>20,000<br>25,000 | 10,000<br>15,000<br>20,000<br>25,000 | -- | -- |
| Hamburg wheel track (inflection point minimum number of passes)[j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | 10,000<br>10,000<br>12,500<br>15000 | 10,000<br>10,000<br>12,500<br>15000 | -- | -- |
| Moisture susceptibility (minimum dry strength, psi)[j] | California Test 371 | 120 | 120 | -- | -- |
| Moisture susceptibility (tensile strength ration, %)[j] | California Test 371 | 70 | 70 | -- | -- |
| Smoothness | Section 39-1.12 | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge and must grind |
| Asphalt binder | Various | Section 92 | Section 92 | Section 92 | Section 92 |
| Asphalt rubber binder | Various | -- | -- | Section 92-1.01D(2) and section 39-1.02D | Section 92-1.01D(2) and section 39-1.02D |
| Asphalt modifier | Various | -- | -- | Section 39-1.02D | Section 39-1.02D |
| CRM | Various | -- | -- | Section 39-1.02D | Section 39-1.02D |

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] "X" denotes the sieves the Engineer tests for the specified aggregate gradation.
[c] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[d] The Engineer reports the average of 3 tests from a single split sample.
[e] The Engineer determines field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

[f] To determine field compaction, the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each density core.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

[g]The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
[h] The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[i] Report only.
[j]Applies to RAP substitution rate greater than 15 percent.

**Replace the 5th paragraph of section 39-2.03A with:**

01-20-12

The Engineer determines the percent of maximum theoretical density from density cores taken from the final layer measured the full depth of the total paved HMA thickness if any of the following applies:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any layer is less than 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.2 foot and any layer is less than 0.20 foot.

**Replace the 1st paragraph of section 39-3.02A with:**

02-22-13

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

**HMA Acceptance—Method Construction Process**

| Quality characteristic | Test method | HMA type | | | |
|---|---|---|---|---|---|
| | | A | B | RHMA-G | OGFC |
| Aggregate gradation [a] | California Test 202 | JMF ± tolerance [b] | JMF ± tolerance [b] | JMF ± tolerance [b] | JMF ± tolerance [b] |
| Sand equivalent (min) [c] | California Test 217 | 47 | 42 | 47 | -- |
| Asphalt binder content (%) | California Test 379 or 382 | JMF±0.40 | JMF±0.40 | JMF ± 0.40 | JMF ± 0.40 |
| HMA moisture content (%, max) | California Test 226 or 370 | 1.0 | 1.0 | 1.0 | 1.0 |
| Stabilometer value (min) [c] | California Test 366 | | | | |
| No. 4 and 3/8" gradings | | 30 | 30 | -- | -- |
| 1/2" and 3/4" gradings | | 37 | 35 | 23 | -- |
| Percent of crushed particles | California Test 205 | | | | |
| Coarse aggregate (% min) | | | | | |
| One fractured face | | 90 | 25 | -- | 90 |
| Two fractured faces | | 75 | -- | 90 | 75 |
| Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) | | | | | |
| One fractured face | | 70 | 20 | 70 | 90 |
| Los Angeles Rattler (% max) | California Test 211 | | | | |
| Loss at 100 rev. | | 12 | -- | 12 | 12 |
| Loss at 500 rev. | | 45 | 50 | 40 | 40 |
| Air void content (%) [c, d] | California Test 367 | 4 ± 2 | 4 ± 2 | TV ± 2 | -- |
| Fine aggregate angularity (% min) [e] | California Test 234 | 45 | 45 | 45 | -- |
| Flat and elongated particles (% max by weight @ 5:1) | California Test 235 | Report only | Report only | Report only | Report only |
| Voids filled with asphalt (%) [f] | California Test 367 | | | | |
| No. 4 grading | | 65.0–75.0 | 65.0–75.0 | Report only | -- |
| 3/8" grading | | 65.0–75.0 | 65.0–75.0 | | |
| 1/2" grading | | 65.0–75.0 | 65.0–75.0 | | |
| 3/4" grading | | 65.0–75.0 | 65.0–75.0 | | |
| Voids in mineral aggregate (% min) [f] | California Test 367 | | | | |
| No. 4 grading | | 17.0 | 17.0 | -- | -- |
| 3/8" grading | | 15.0 | 15.0 | -- | |
| 1/2" grading | | 14.0 | 14.0 | 18.0–23.0 | |
| 3/4" grading | | 13.0 | 13.0 | 18.0–23.0 | |
| Dust proportion [f] | California Test 367 | | | | |
| No. 4 and 3/8" gradings | | 0.6–1.2 | 0.6–1.2 | Report only | -- |
| 1/2" and 3/4" gradings | | 0.6–1.2 | 0.6–1.2 | | |
| Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth) [g] | AASHTO T 324 (Modified) | | | -- | -- |
| PG-58 | | 10,000 | 10,000 | | |
| PG-64 | | 15,000 | 15,000 | | |

| | | | | | |
|---|---|---|---|---|---|
| PG-70<br>PG-76 or higher | | 20,000<br>25,000 | 20,000<br>25,000 | | |
| Hamburg wheel track (inflection point minimum number of passes)[g]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | <br><br><br>10,000<br>10,000<br>12,500<br>15000 | <br><br><br>10,000<br>10,000<br>12,500<br>15000 | -- | -- |
| Moisture susceptibility (minimum dry strength, psi)[g] | California Test 371 | 120 | 120 | -- | -- |
| Moisture susceptibility (tensile strength ration, %)[g] | California Test 371 | 70 | 70 | -- | -- |
| Smoothness | Section 39-1.12 | 12-foot straight-edge and must-grind | 12-foot straight-edge and must-grind | 12-foot straight-edge and must-grind | 12-foot straight-edge and must-grind |
| Asphalt binder | Various | Section 92 | Section 92 | Section 92 | Section 92 |
| Asphalt rubber binder | Various | -- | -- | Section 92-1.01D(2) and section 39-1.02D | Section 92-1.01D(2) and section 39-1.02D |
| Asphalt modifier | Various | -- | -- | Section 39-1.02D | Section 39-1.02D |
| CRM | Various | -- | -- | Section 39-1.02D | Section 39-1.02D |

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] The Engineer reports the average of 3 tests from a single split sample.
[d] The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
[e] The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[f] Report only.
[g] Applies to RAP substitution rate greater than 15 percent.

**Replace "280 degrees F" in item 2 in the list in the 6th paragraph of section 39-3.04 with:**

01-20-12

285 degrees F

**Replace "5,000" in the 5th paragraph of section 39-4.02C with:**

02-22-13

10,000

**Replace the 7th paragraph of section 39-4.02C with:**

02-22-13

Except for RAP substitution rate of greater than 15 percent, the Department does not use results from California Test 371 to determine specification compliance.

**Replace the 8th paragraph of section 39-4.02C with:**

02-22-13

Comply with the values for the HMA quality characteristics and minimum random sampling and testing for quality control shown in the following table:

**Minimum Quality Control—QC/QA Construction Process**

| Quality characteristic | Test method | Minimum sampling and testing frequency | HMA Type | | | Location of sampling | Maximum reporting time allowance |
|---|---|---|---|---|---|---|---|
| | | | A | B | RHMA-G | | |
| Aggregate gradation[a] | California Test 202 | 1 per 750 tons | JMF ± tolerance [b] | JMF ± tolerance [b] | JMF ± tolerance [b] | California Test 125 | 24 hours |
| Asphalt binder content (%) | California Test 379 or 382 | | JMF±0.40 | JMF±0.40 | JMF ±0.40 | Loose mix behind paver See California Test 125 | |
| Field compaction (% max. theoretical density)[c,d] | QC plan | | 92–96 | 92–96 | 91–96 | QC plan | |
| Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants[e] | California Test 226 or 370 | 2 per day during production | -- | -- | -- | Stock-piles or cold feed belts | -- |
| Sand equivalent (min)[f] | California Test 217 | 1 per 750 tons | 47 | 42 | 47 | California Test 125 | 24 hours |
| HMA moisture content (%,max) | California Test 226 or 370 | 1 per 2,500 tons but not less than 1 per paving day | 1.0 | 1.0 | 1.0 | Loose Mix Behind Paver See California Test 125 | 24 hours |
| Stabilometer value (min)[f]<br><br>No. 4 and 3/8" gradings<br>1/2" and 3/4" gradings | California Test 366 | 1 per 4,000 tons or 2 per 5 business days, whichever is greater | 30<br><br>37 | 30<br><br>35 | --<br><br>23 | | 48 hours |
| Air void content (%)[f,g] | California Test 367 | | 4 ± 2 | 4 ± 2 | TV ± 2 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Percent of crushed particles coarse aggregate (% min.):<br>One fractured face<br>Two fractured faces<br><br>Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve):<br>One fractured face | California Test 205 | As designated in QC plan.<br><br>At least once per project. | 90<br>75<br><br>70 | 25<br>--<br><br>20 | --<br>90<br><br>70 | California Test 125 | 48 hours |
| Los Angeles Rattler (% max):<br>Loss at 100 rev.<br>Loss at 500 rev. | California Test 211 | | 12<br>45 | --<br>50 | 12<br>40 | California Test 125 | |
| Fine aggregate angularity (% min) [h] | California Test 234 | | 45 | 45 | 45 | California Test 125 | |
| Flat and elongated particle (% max by weight @ 5:1) | California Test 235 | | Report only | Report only | Report only | California Test 125 | |
| Voids filled with asphalt (%)[i]<br><br>No. 4 grading<br>3/8" grading<br>1/2" grading<br>3/4" grading | California Test 367 | | 65.0–75.0<br>65.0–75.0<br>65.0–75.0<br>65.0–75.0 | 65.0–75.0<br>65.0–75.0<br>65.0–75.0<br>65.0–75.0 | Report only | | |
| Voids in mineral aggregate (% min.)[i]<br><br>No. 4 grading<br>3/8" grading<br>1/2" grading<br>3/4" grading | California Test 367 | | 17.0<br>15.0<br>14.0<br>13.0 | 17.0<br>15.0<br>14.0<br>13.0 | --<br>--<br>18.0–23.0<br>18.0–23.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dust proportion[i]<br><br>No. 4 and 3/8" gradings<br>1/2" and 3/4" gradings | California Test 367 | | 0.6–1.2<br><br>0.6–1.2 | 0.6–1.2<br><br>0.6–1.2 | Report only | | |
| Hamburg wheel track (minimum number of passes at 0.5 inch average rut depth)[i]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | 1 per 10,000 tons or 1 per project whichever is greater | 10,000<br>15,000<br>20,000<br><br>25,000 | 10,000<br>15,000<br>20,000<br><br>25,000 | -- | -- | |
| Hamburg wheel track (inflection point minimum number of passes)[j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | AASHTO T 324 (Modified) | 1 per 10,000 tons or 1 per project whichever is greater | 10,000<br>10,000<br>12,500<br><br>15000 | 10,000<br>10,000<br>12,500<br><br>15000 | -- | -- | |
| Moisture susceptibility (minimum dry strength, psi)[j] | California Test 371 | 1 per 10,000 tons or 1 per project whichever is greater | 120 | 120 | -- | -- | |
| Moisture susceptibility (tensile strength ratio, %)[j] | California Test 371 | 1 per 10,000 tons or 1 per project whichever is greater | 70 | 70 | 70 | -- | |
| Smoothness | Section 39-1.12 | -- | 12-foot straight-edge, must-grind, and $PI_0$ | 12-foot straight-edge, must-grind, and $PI_0$ | 12-foot straight-edge, must-grind, and $PI_0$ | -- | |
| Asphalt rubber binder viscosity @ 375 °F, centipoises | Section 39-1.02D | -- | -- | -- | 1,500–4,000 | Section 39-1.02D | 24 hours |
| CRM | Section 39-1.02D | -- | -- | -- | Section 39-1.02D | Section 39-1.02D | 48 hours |

[a] Determine combined aggregate gradation containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] Determines field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

[d] To determine field compaction use:

1. In-place density measurements using the method specified in your QC plan.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

[e] For adjusting the plant controller at the HMA plant.
[f] Report the average of 3 tests from a single split sample.
[g] Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
[h] The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[i] Report only.
[j] Applies to RAP substitution rate greater than 15 percent.

**Replace the 1st sentence in the 1st paragraph of section 39-4.03B(2) with:**

01-20-12

For aggregate gradation and asphalt binder content, the minimum ratio of verification testing frequency to quality control testing frequency is 1:5.

**Replace the 2nd "and" in the 7th paragraph of section 39-4.03B(2) with:**

01-20-12

or

**Replace the 1st paragraph of section 39-4.04A with:**

02-22-13

The Engineer samples for acceptance testing and tests for the following quality characteristics:

**HMA Acceptance—QC/QA Construction Process**

| Index (i) | Quality characteristic | | | | Weight-ing factor (w) | Test method | HMA type | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | A | B | RHMA-G |
| | | Aggregate gradation [a] | | | | | | | |
| | Sieve | 3/4" | 1/2" | 3/8" | | | | | |
| 1 | 1/2" | X [b] | -- | -- | 0.05 | California Test 202 | JMF ± Tolerance [c] | | |
| 1 | 3/8" | -- | X | -- | 0.05 | | | | |
| 1 | No. 4 | -- | -- | X | 0.05 | | | | |
| 2 | No. 8 | X | X | X | 0.10 | | | | |
| 3 | No. 200 | X | X | X | 0.15 | | | | |
| 4 | Asphalt binder content (%) | | | | 0.30 | California Test 379 or 382 | JMF±0.40 | JMF±0.40 | JMF ± 0.40 |
| 5 | Field compaction (% max. theoretical density) [d, e] | | | | 0.40 | California Test 375 | 92–96 | 92–96 | 91–96 |
| | Sand equivalent (min) [f] | | | | | California Test 217 | 47 | 42 | 47 |
| | Stabilometer value (min) [f]<br>No. 4 and 3/8" gradings<br>1/2" and 3/4" gradings | | | | | California Test 366 | <br>30<br>37 | <br>30<br>35 | <br>--<br>23 |
| | Air void content (%) [f, g] | | | | | California Test 367 | 4 ± 2 | 4 ± 2 | TV ± 2 |
| | Percent of crushed particles coarse aggregate (% min)<br>One fractured face<br>Two fractured faces<br>Fine aggregate (% min)<br>(Passing no. 4 sieve and retained on No. 8 sieve.)<br>One fractured face | | | | | California Test 205 | <br>90<br>75<br><br><br><br>70 | <br>25<br>--<br><br><br><br>20 | <br>--<br>90<br><br><br><br>70 |
| | HMA moisture content (%, max) | | | | | California Test 226 or 370 | 1.0 | 1.0 | 1.0 |
| | Los Angeles Rattler (% max)<br>Loss at 100 rev.<br>Loss at 500 rev. | | | | | California Test 211 | <br>12<br>45 | <br>--<br>50 | <br>12<br>40 |
| | Fine aggregate angularity (% min) [h] | | | | | California Test 234 | 45 | 45 | 45 |
| | Flat and elongated particle (% max by weight @ 5:1) | | | | | California Test 235 | Report only | Report only | Report only |
| | Voids in mineral aggregate (% min) [i]<br>No. 4 grading<br>3/8" grading<br>1/2" grading<br>3/4" grading | | | | | California Test 367 | <br>17.0<br>15.0<br>14.0<br>13.0 | <br>17.0<br>15.0<br>14.0<br>13.0 | --<br>--<br>18.0–23.0<br>18.0–23.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Voids filled with asphalt (%) [i]<br>No. 4 grading<br>3/8" grading<br>1/2" grading<br>3/4" grading | | California Test 367 | <br><br>65.0–75.0<br>65.0–75.0<br>65.0–75.0<br>65.0–75.0 | <br><br>65.0–75.0<br>65.0–75.0<br>65.0–75.0<br>65.0–75.0 | Report only |
| | Dust proportion [i]<br>No. 4 and 3/8" gradings<br>1/2" and 3/4" gradings | | California Test 367 | <br>0.6–1.2<br>0.6–1.2 | <br>0.6–1.2<br>0.6–1.2 | Report only |
| | Hamburg Wheel Tracker (minimum number of passes at 0.5 inch average rut depth) [j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | | AASHTO T 324 (Modified) | <br><br><br><br>10,000<br>15,000<br>20,000<br>25,000 | <br><br><br><br>10,000<br>15,000<br>20,000<br>25,000 | -- |
| | Hamburg Wheel Tracker (inflection point minimum number of passes) [j]<br>PG-58<br>PG-64<br>PG-70<br>PG-76 or higher | | AASHTO T 324 (Modified) | <br><br><br><br>10,000<br>15,000<br>20,000<br>25,000 | <br><br><br><br>10,000<br>15,000<br>20,000<br>25,000 | -- |
| | Moisture susceptibility (minimum dry strength, psi) [j] | | California Test 371 | 120 | 120 | -- |
| | Moisture susceptibility (tensile strength ratio %) [j] | | California Test 371 | 70 | 70 | 70 |
| | Smoothness | | Section 39-1.12 | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ | 12-foot straight-edge, must grind, and $PI_0$ |
| | Asphalt binder | | Various | Section 92 | Section 92 | Section 92 |
| | Asphalt rubber binder | | Various | -- | -- | Section 92-1.01D(2) and section 39-1.02D |
| | Asphalt modifier | | Various | -- | -- | Section 39-1.02D |
| | CRM | | Various | -- | -- | Section 39-1.02D |

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] "X" denotes the sieves the Engineer tests for the specified aggregate gradation.
[c] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[d] The Engineer determines field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and less than 0.20 foot.2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

[e] To determine field compaction, the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each density core.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

[f] The Engineer reports the average of 3 tests from a single split sample.
[g] The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.
[h] The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[i] Report only.
[j] Applies to RAP substitution rate greater than 15 percent.

**Replace the 3rd paragraph of section 39-4.04A with:**

01-20-12

The Department determines the percent of maximum theoretical density from density cores taken from the final layer measured the full depth of the total paved HMA thickness if any of the following applies:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any lager is less than 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 and any layer is less than 0.20 foot.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 40 CONCRETE PAVEMENT

01-20-12

**Replace section 40-1.01C(4) with:**

01-20-12

**40-1.01C(4) Authorized Laboratory**

Submit for authorization the name of the laboratory you propose to use for testing the drilled core specimens for air content.

**Replace the paragraph in section 40-1.01C(8) with:**

01-20-12

Submit a plan for protecting concrete pavement during the initial 72 hours after paving when the forecasted minimum ambient temperature is below 40 degrees F.

01-20-12

**Delete "determined under California Test 559" in section 40-1.01C(9).**

**Replace the 2nd and 3rd paragraphs in section 40-1.01D(4) with:**

01-20-12

The QC plan must include details of corrective action to be taken if any process is out of control. As a minimum, a process is out of control if any of the following occurs:

1. For fine and coarse aggregate gradation, 2 consecutive running averages of 4 tests are outside the specification limits
2. For individual penetration or air content measurements:
   2.1. One point falls outside the suspension limit line
   2.2. Two points in a row fall outside the action limit line

Stop production and take corrective action for out of control processes or the Engineer rejects subsequent material.

**Replace the 1st paragraph in section 40-1.01D(5) with:**

01-20-12

Determine the minimum cementitious materials content. Use your value for minimum cementitious material content for *MC* in equation 1 and equation 2 of section 90-1.02B(3).

**Replace the 1st sentence of the 3rd paragraph of section 40-1.01D(9) with:**

01-20-12

Use a California profilograph to determine the concrete pavement profile.

**Replace the title of the table in section 40-1.01D(13)(a) with:**

01-20-12

**Concrete Pavement Acceptance Testing**

**Replace the 2nd and 3rd paragraphs in section 40-1.01D(13)(a) with:**

01-20-12

Pavement smoothness may be accepted based on the Department's testing. A single test represents no more than 0.1 mile.

Acceptance of modulus of rupture, thickness, dowel bar and tie bar placement, coefficient of friction, smoothness, and air content, does not constitute final concrete pavement acceptance.

01-20-12

**Delete item 4 in the list in the 2nd paragraph in section 40-1.01D(13)(c)(2).**

**Replace items 1 and 2 in the list in the 2nd paragraph in 40-1.01D(13)(d) with:**

01-20-12

1. For tangents and horizontal curves having a centerline radius of curvature 2,000 feet or more, the $PI_0$ must be at most 2-1/2 inches per 0.1-mile section.
2. For horizontal curves having a centerline radius of curvature from 1,000 to 2,000 feet including concrete pavement within the superelevation transitions of those curves, the $PI_0$ must be at most 5 inches per 0.1-mile section.

**Replace the 1st and 2nd variables in the equation in section 40-1.01D(13)(f) with:**

01-20-12

$n_c$ = Number of your quality control tests (minimum of 6 required)

$n_v$ = Number of verification tests (minimum of 2 required)

**Replace "Your approved third party independent testing laboratory" in the 4th paragraph of section 40-1.01D(13)(f) with:**

01-20-12

The authorized laboratory

**Replace item 2 in the list in the 2nd paragraph of section 40-1.01D(13)(g):**

01-20-12

2. One test for every 4,000 square yards of concrete pavement with tie bars or remaining fraction of that area. Each tie bar test consists of 2 cores with 1 on each tie-bar-end to expose both ends and allow measurement.

**Replace section 40-1.01D(13)(h) with:**

01-20-12

**40-1.01D(13)(h) Bar Reinforcement**

Bar reinforcement is accepted based on inspection before concrete placement.

**Replace the paragraph in section 40-1.02B(2) with:**

01-20-12

PCC for concrete pavement must comply with section 90-1 except as otherwise specified.

**Replace the paragraphs in section 40-1.02D with:**

01-20-12

Bar reinforcement must be deformed bars.

If the project is not shown to be in high desert or any mountain climate region, bar reinforcement must comply with section 52.

If the project is shown to be in high desert or any mountain climate regions, bar reinforcement must be one of the following:

1. Epoxy-coated bar reinforcement under section 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60. Bars must be handled under ASTM D 3963/D 3963M and section 52-2.02C.
2. Low carbon, chromium steel bar complying with ASTM A 1035/A 1035M

**Replace the paragraphs in section 40-1.02E with:**

01-20-12

Tie bars must be deformed bars.

If the project is not shown to be in high desert or any mountain climate region, tie bars must be one of the following:

1. Epoxy-coated bar reinforcement. Bars must comply with either section 52-2.02B or 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.
3. Low carbon, chromium-steel bars under ASTM A 1035/A 1035M.

If the project is shown to be in high desert or any mountain climate region, tie bars must be one of the following:

1. Epoxy-coated bar reinforcement. Bars must comply with section 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.

Fabricate, sample, and handle epoxy-coated tie bars under ASTM D 3963/D 3963M, section 52-2.02C, or section 52-2.03C.

Do not bend tie bars.

**Replace the 1st, 2nd, and 3rd paragraphs in section 40-1.02F with:**

01-20-12

Dowel bars must be plain bars. Fabricate, sample, and handle epoxy-coated dowel bars under ASTM D 3963/D 3963M and section 52-2.03C except each sample must be 18 inches long.

If the project is not shown to be in high desert or any mountain climate region, dowel bars must be one of the following:

1. Epoxy-coated bars. Bars must comply with ASTM A 615/A 615M, Grade 40 or 60. Epoxy coating must comply with either section 52-2.02B or 52-2.03B.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.
3. Low carbon, chromium-steel bars under ASTM A 1035/A 1035M.

If the project is shown to be in high desert or any mountain climate region, dowel bars must be one of the following:

1. Epoxy-coated bars. Bars must comply with ASTM A 615/A 615M, Grade 40 or 60. Epoxy coating must comply with section 52-2.03B.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.

**Replace the paragraphs in section 40-1.02G with:**

01-20-12

For dowel and tie bar baskets, wire must comply with ASTM A 82/A 82M and be welded under ASTM A 185/A 185M, Section 7.4. The minimum wire-size no. is W10. Use either U-frame or A-frame shaped assemblies.

If the project is not shown to be in high desert or any mountain climate region. Baskets may be epoxy-coated, and the epoxy coating must comply with either section 52-2.02B or 52-2.03B.

If the project is shown to be in high desert or any mountain climate region, wire for dowel bar and tie bar baskets must be one of the following:

1. Epoxy-coated wire complying with section 52-2.03B
2. Stainless-steel wire. Wire must be descaled, pickled, and polished solid stainless-steel. Wire must comply with (1) the chemical requirements in ASTM A 276/A 276M, UNS Designation S31603 or S31803 and (2) the tension requirements in ASTM A 1022/ A 1022M.

Handle epoxy-coated tie bar and dowel bar baskets under ASTM D 3963/D 3963M and either section 52-2.02B or 52-2.03B.

Fasteners must be driven fasteners under ASTM F 1667. Fasteners on lean concrete base or HMA must have a minimum shank diameter of 3/16 inch and a minimum shank length of 2-1/2 inches. For asphalt

treated permeable base or cement treated permeable base, the shank diameter must be at least 3/16 inch and the shank length must be at least 5 inches.

Fasteners, clips, and washers must have a minimum 0.2-mil thick zinc coating applied by either electroplating or galvanizing.

**Replace the 1st paragraph in section 40-1.02H with:**

01-20-12

Chemical adhesive for drilling and bonding dowels and tie bars must be on the Authorized Material List. The Authorized Material List indicates the appropriate chemical adhesive system for the concrete temperature and installation conditions.

**Replace section 40-1.02I(2) with:**

01-20-12

**40-1.02I(2) Silicone Joint Sealant**

Silicone joint sealant must be on the Authorized Material List.

**Replace the last sentence in section 40-1.02I(4) with:**

01-20-12

Show evidence that the seals are compressed from 30 to 50 percent for the joint width at time of installation.

**Replace the paragraph in section 40-1.02L with:**

01-20-12

Water for core drilling may be obtained from a potable water source, or submit proof that it does not contain:

1. More than 1,000 parts per million of chlorides as Cl
2. More than 1,300 parts per million of sulfates as $S0_4$
3. Impurities that cause pavement discoloration or surface etching

**Replace the paragraph in section 40-1.03B with:**

01-20-12

Before placing concrete pavement, develop enough water supply for the work under section 17.

**Replace the last paragraph in section 40-1.03D(1) with:**

01-20-12

Removal of grinding residue must comply with section 42-1.03B.

**Replace the 1st and 2nd paragraphs in section 40-1.03E(6)(c) with:**

01-20-12

Install preformed compressions seals in isolation joints if specified in the special provisions.

Install longitudinal seals before transverse seals. Longitudinal seals must be continuous except splicing is allowed at intersections with transverse seals. Transverse seals must be continuous for the entire transverse length of concrete pavement except splices are allowed for widenings and staged construction. With a sharp instrument, cut across the longitudinal seal at the intersection with transverse

construction joints. If the longitudinal seal does not relax enough to properly install the transverse seal, trim the longitudinal seal to form a tight seal between the 2 joints.

If splicing is authorized, splicing must comply with the manufacturer's written instructions.

**Replace the 12th and 13th paragraphs in section 40-1.03G with:**

01-20-12

Construct additional test strips if you:

1. Propose different paving equipment including:
   1.1. Paver
   1.2. Dowel bar inserter
   1.3. Tie bar inserter
   1.4. Tining
   1.5. Curing equipment
2. Change concrete mix proportions

You may request authorization to eliminate the test strip if you use paving equipment and personnel from a Department project (1) for the same type of pavement and (2) completed within the past 12 months. Submit supporting documents and previous project information with your request.

**Replace the 1st paragraph in section 40-1.03I with:**

01-20-12

Place tie bars in compliance with the tolerances shown in the following table:

**Tie Bar Tolerance**

| Dimension | Tolerance |
|---|---|
| Horizontal and vertical skew | 10 degrees maximum |
| Longitudinal translation | ± 2 inch maximum |
| Horizontal offset (embedment) | ± 2 inch maximum |
| Vertical depth | 1. Not less than 1/2 inch below the saw cut depth of joints<br>2. When measured at any point along the bar, not less than 2 inches clear of the pavement's surface and bottom |

**Replace item 4 in the list in the 2nd paragraph in section 40-1.03I with:**

01-20-12

4. Use tie bar baskets. Anchor baskets at least 200 feet in advance of pavement placement activity. If you request a waiver, describe the construction limitations or restricted access preventing the advanced anchoring. After the baskets are anchored and before paving, demonstrate the tie bars do not move from their specified depth and alignment during paving. Use fasteners to anchor tie bar baskets.

**Replace "The maximum distance below the depth shown must be 0.05 foot." in the table in section 40-1.03J with:**

01-20-12

The maximum distance below the depth shown must be 5/8 inch.

**Replace sections 40-1.03L and 40-1.03M with:**

01-20-12

## 40-1.03L Finishing

### 40-1.03L(1) General

Reserved

### 40-1.03L(2) Preliminary Finishing

#### 40-1.03L(2)(a) General

Preliminary finishing must produce a smooth and true-to-grade finish. After preliminary finishing, mark each day's paving with a stamp. The stamp must be authorized before paving starts. The stamp must be approximately 1 by 2 feet in size. The stamp must form a uniform mark from 1/8 to 1/4 inch deep. Locate the mark 20 ± 5 feet from the transverse construction joint formed at each day's start of paving and 1 ± 0.25 foot from the pavement's outside edge. The stamp mark must show the month, day, and year of placement and the station of the transverse construction joint. Orient the stamp mark so it can be read from the pavement's outside edge.

Do not apply more water to the pavement surface than can evaporate before float finishing and texturing are completed.

#### 40-1.03L(2)(b) Stationary Side Form Finishing

If stationary side form construction is used, give the pavement a preliminary finish by the machine float method or the hand method.

If using the machine float method:

1. Use self-propelled machine floats.
2. Determine the number of machine floats required to perform the work at a rate equal to the pavement delivery rate. If the time from paving to machine float finishing exceeds 30 minutes, stop pavement delivery. When machine floats are in proper position, you may resume pavement delivery and paving.
3. Run machine floats on side forms or adjacent pavement lanes. If running on adjacent pavement, protect the adjacent pavement surface under section 40-1.03P. Floats must be hardwood, steel, or steel-shod wood. Floats must be equipped with devices that adjust the underside to a true flat surface.

If using the hand method, finish pavement smooth and true to grade with manually operated floats or powered finishing machines.

#### 40-1.03L(2)(c) Slip-Form Finishing

If slip-form construction is used, the slip-form paver must give the pavement a preliminary finish. You may supplement the slip-form paver with machine floats.

Before the pavement hardens, correct pavement edge slump in excess of 0.02 foot exclusive of edge rounding.

### 40-1.03L(3) Final Finishing

After completing preliminary finishing, round the edges of the initial paving widths to a 0.04-foot radius. Round transverse and longitudinal construction joints to a 0.02-foot radius.

Before curing, texture the pavement. Perform initial texturing with a burlap drag or broom device that produces striations parallel to the centerline. Perform final texturing with a steel-tined device that produces grooves parallel with the centerline.

Construct longitudinal grooves with a self-propelled machine designed specifically for grooving and texturing pavement. The machine must have tracks to maintain constant speed, provide traction, and maintain accurate tracking along the pavement surface. The machine must have a single row of rectangular spring steel tines. The tines must be from 3/32 to 1/8 inch wide, on 3/4-inch centers, and must have enough length, thickness, and resilience to form grooves approximately 3/16 inch deep. The machine must have horizontal and vertical controls. The machine must apply constant down pressure on the pavement surface during texturing. The machines must not cause ravels.

Construct grooves over the entire pavement width in a single pass except do not construct grooves 3 inches from the pavement edges and longitudinal joints. Final texture must be uniform and smooth. Use a guide to properly align the grooves. Grooves must be parallel and aligned to the pavement edge across the pavement width. Grooves must be from 1/8 to 3/16 inch deep after the pavement has hardened.

For irregular areas and areas inaccessible to the grooving machine, you may hand-construct grooves under section 40-1.03L(2) using the hand method. Hand-constructed grooves must comply with the specifications for machine-constructed grooves.

Initial and final texturing must produce a coefficient of friction of at least 0.30 when tested under California Test 342. Notify the Engineer when the pavement is scheduled to be opened to traffic to allow at least 25 days for the Department to schedule testing for coefficient of friction. Notify the Engineer when the pavement is ready for testing which is the latter of:

1. Seven days after paving
2. When the pavement has attained a modulus of rupture of 550 psi

The Department tests for coefficient of friction within 7 days of receiving notification that the pavement is ready for testing.

Do not open the pavement to traffic unless the coefficient of friction is at least 0.30.

**40-1.03M Reserved**

**Replace the 4th paragraph of 40-1.03P with:**

01-20-12

Construct crossings for traffic convenience. If authorized, you may use RSC for crossings. Do not open crossings until the Department determines that the pavement's modulus of rupture is at least 550 psi under California Test 523 or California Test 524.

**Replace the 1st paragraph of section 40-6.01A with:**

01-20-12

Section 40-6 includes specifications for applying a high molecular weight methacrylate resin system to pavement surface cracks that do not extend the full slab depth.

**Replace the 4th paragraph of section 40-6.01C(2) with:**

01-20-12

If the project is in an urban area adjacent to a school or residence, the public safety plan must also include an airborne emissions monitoring plan prepared by a CIH certified in comprehensive practice by the American Board of Industrial Hygiene. Submit a copy of the CIH's certification. The CIH must monitor the emissions at a minimum of 4 points including the mixing point, the application point, and the point of nearest public contact. At work completion, submit a report by the industrial hygienist with results of the airborne emissions monitoring plan.

01-20-12

**Delete the 1st sentence of the 2nd paragraph in section 40-6.02B.**

**Replace item 4 in the list in the last paragraph in section 40-6.03A with:**

01-20-12

4. Coefficient of friction is at least 0.30 under California Test 342

**Replace the paragraph in section 40-6.04 with:**

01-20-12

Not Used

**Add to section 40:**

01-20-12

**40-7–40-15 RESERVED**

**^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^**

## 41 CONCRETE PAVEMENT REPAIR

10-19-12

**Replace "41-1.02" in the 1st paragraph of section 41-3.02 with:**

10-19-12

41-2.02

**Add to section 41-4.03:**

10-19-12

**41-4.03J–41-4.03M Reserved**

**Replace "41-8" in the 3rd paragraph of section 41-7.03 with:**

10-19-12

41-9 except

**^^^^^^^^^^^^^^^^^^^

01-18-13

**Delete the 5th and 6th paragraphs of section 46-1.01C(2).**

**Replace the 4th paragraph of section 46-1.01D(2)(b) with:**

01-18-13

Each jack and its gage must be calibrated as a unit under the specifications for jacks used to tension prestressing steel permanently anchored at 25 percent or more of its specified minimum ultimate tensile strength in section 50-1.01D(3).

10-19-12

**Delete the 3rd paragraph of section 46-1.01D(2)(d).**

**Add to section 46-1.03B:**

04-20-12

Dispose of drill cuttings under section 19-2.03B.

**Replace the 1st sentence of the 3rd paragraph of section 46-2.01A with:**

04-20-12

Ground anchors must comply with section 50.

**Add to section 46-2.02B:**

04-20-12

Strand tendons, bar tendons, bar couplers, and anchorage assemblies must comply with section 50.

**^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^**

## 47 EARTH RETAINING SYSTEMS

04-19-13

**Replace the 2nd paragraph of section 47-2.01D with:**

02-17-12

Coupler test samples must comply with minimum tensile specifications for steel wire in ASTM A 82/A 82M. Total wire slip must be at most 3/16 inch when tested under the specifications for tension testing of round wire test samples in ASTM A 370.

**Replace "78-80" in the 1st table in the 2nd paragraph of section 47-2.02C with:**

10-19-12

78-100

**Replace the value for the sand equivalent requirement in the 2nd table in the 3rd paragraph of section 47-2.02C with:**

01-20-12

12 minimum

**Replace the 1st paragraph of section 47-2.02E with:**

02-17-12

Steel wire must comply with ASTM A 82/A 82M. Welded wire reinforcement must comply with ASTM A 185/A 185M.

**Add between the 2nd and 3rd paragraphs of section 47-3.02A:**

10-19-12

Reinforcement must comply with section 52.

10-19-12

**Delete the 1st paragraph of section 47-3.02B(2)(b).**

**Add between the 3rd and 4th paragraphs of section 47-5.01:**

10-19-12

Reinforcement must comply with section 52.

**Add to section 47-6.01A:**

10-19-12

The alternative earth retaining system must comply with the specifications for the type of wall being constructed.

**Replace "sets" at each occurrence in the 1st paragraph of section 47-6.01C with:**

04-19-13

copies

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 48 TEMPORARY STRUCTURES

04-19-13

**Replace "previously welded splice" and its definition in section 48-2.01B with:**

04-19-13

**previously welded splice:** Splice made in a falsework member in compliance with AWS D1.1 or other recognized welding standard before contract award.

04-19-13

**Delete "field" in the 1st sentence of the 5th paragraph of section 48-2.01C(1).**

**Replace item 1 in the list in the 6th paragraph of section 48-2.01C(1) with:**

04-19-13

1. Itemize the testing, inspection methods, and acceptance criteria used

**Replace the 7th paragraph of section 48-2.01C(2) with:**

09-16-11

If you submit multiple submittals at the same time or additional submittals before review of a previous submittal is complete:

1. You must designate a review sequence for submittals
2. Review time for any submittal is the review time specified plus 15 days for each submittal of higher priority still under review

**Replace the 1st paragraph of section 48-2.01D(2) with:**

04-19-13

Welding must comply with AWS D1.1 or other recognized welding standard, except for fillet welds where the load demands are 1,000 lb or less per inch for each 1/8 inch of fillet weld.

**Replace the 1st through 3rd sentences in the 2nd paragraph of section 48-2.01D(2) with:**

04-19-13

Perform NDT on welded splices using UT or RT. Each weld and any repair made to a previously welded splice must be tested.

**Replace the 3rd paragraph of section 48-2.01D(2) with:**

04-19-13

For previously welded splices, perform and document all necessary testing and inspection required to certify the ability of the falsework members to sustain the design stresses.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 49 PILING

04-19-13

**Replace "sets" in the 1st paragraph of section 49-1.01C(2) with:**

04-19-13

copies

**Replace "set" in the 2nd paragraph of section 49-1.01C(2) with:**

04-19-13

copy

**Replace "Load Applied to Pile by Hydraulic Jack(s) Acting at One End of Test Beam(s) Anchored to the Pile" in the 5th paragraph of section 49-1.01D(2) with:**

07-20-12

"Tensile Load Applied by Hydraulic Jack(s) Acting Upward at One End of Test Beam(s)"

**Add to section 49-1.03:**

04-20-12

Dispose of drill cuttings under section 19-2.03B.

**Replace the 2nd paragraph of section 49-2.01D with:**

01-20-12

Furnish piling is measured along the longest side of the pile from the specified tip elevation shown to the plane of pile cutoff.

**Replace "sets" in the 1st paragraph of section 49-2.04A(3) with:**

04-19-13

copies

**Replace the 3rd and 4th paragraphs of section 49-2.04B(2) with:**

10-19-12

Piles in a corrosive environment must be steam or water cured under section 90-4.03.

If piles in a corrosive environment are steam cured, either:

1. Keep the piles continuously wet for at least 3 days. The 3 days includes the holding and steam curing periods.
2. Apply curing compound under section 90-1.03B(3) after steam curing.

**Add to section 49-3.01A:**

01-20-12

Concrete must comply with section 51.

**Replace the 1st paragraph of section 49-3.01C with:**

01-20-12

Except for CIDH concrete piles constructed under slurry, construct CIP concrete piles such that the excavation methods and the concrete placement procedures provide for placing the concrete against undisturbed material in a dry or dewatered hole.

**Replace "Reserved" in section 49-3.02A(2) with:**

01-20-12

**dry hole:**

1. Except for CIDH concrete piles specified as end bearing, a drilled hole that:
   1.1. Accumulates no more than 12 inches of water in the bottom of the drilled hole during a period of 1 hour without any pumping from the hole during the hour.
   1.2. Has no more than 3 inches of water in the bottom of the drilled hole immediately before placing concrete.
2. For CIDH concrete piles specified as end bearing, a drilled hole free of water without the use of pumps.

**Replace "Reserved" in section 49-3.02A(3)(a) with:**

01-20-12

If plastic spacers are proposed for use, submit the manufacturer's data and a sample of the plastic spacer. Allow 10 days for review.

**Replace item 5 in the list in the 1st paragraph of section 49-3.02A(3)(b) with:**

10-19-12

5. Methods and equipment for determining:
   5.1. Depth of concrete
   5.2. Theoretical volume of concrete to be placed, including the effects on volume if casings are withdrawn
   5.3. Actual volume of concrete placed

**Add to the list in the 1st paragraph of section 49-3.02A(3)(b):**

01-18-13

8. Drilling sequence and concrete placement plan.

**Replace item 2 in the list in the 1st paragraph of section 49-3.02A(3)(g) with:**

01-20-12

2. Be sealed and signed by an engineer who is registered as a civil engineer in the State. This requirement is waived for either of the following conditions:
   2.1. The proposed mitigation will be performed under the current Department-published version of *ADSC Standard Mitigation Plan 'A' - Basic Repair* without exception or modification.
   2.2. The Engineer determines that the rejected pile does not require mitigation due to structural, geotechnical, or corrosion concerns, and you elect to repair the pile using the current Department-published version of *ADSC Standard Mitigation Plan 'B' - Grouting Repair* without exception or modification.

**Replace item 1 in the list in the 1st paragraph of section 49-3.02A(4)(d)(ii) with:**

01-20-12

1. Inspection pipes must be schedule 40 PVC pipe complying with ASTM D 1785 with a nominal pipe size of 2 inches. Watertight PVC couplers complying with ASTM D 2466 are allowed to facilitate pipe lengths in excess of those commercially available. Log the location of the inspection pipe couplers with respect to the plane of pile cutoff.

**Add to section 49-3.02A(4)(d)(iv):**

01-20-12

If the Engineer determines it is not feasible to use one of ADSC's standard mitigation plans to mitigate the pile, schedule a meeting and meet with the Engineer before submitting a nonstandard mitigation plan.

The meeting attendees must include your representatives and the Engineer's representatives involved in the pile mitigation. The purpose of the meeting is to discuss the type of pile mitigation acceptable to the Department.

Provide the meeting facility. The Engineer conducts the meeting.

**Replace the 1st paragraph of section 49-3.02B(5) with:**

01-20-12

Grout used to backfill casings must comply with section 50-1.02C, except:

1. Grout must consist of cementitious material and water, and may contain an admixture if authorized. Cementitious material must comply with section 90-1.02B, except SCMs are not required. The minimum cementitious material content of the grout must not be less than 845 lb/cu yd of grout.
2. Aggregate must be used to extend the grout as follows:

2.1. Aggregate must consist of at least 70 percent fine aggregate and approximately 30 percent pea gravel, by weight.
2.2. Fine aggregate must comply with section 90-1.02C(3).
2.3. Size of pea gravel must be such that 100 percent passes the 1/2-inch sieve, at least 90 percent passes the 3/8-inch sieve, and not more than 5 percent passes the no. 8 sieve.

3. California Test 541 is not required.
4. Grout is not required to pass through a sieve with a 0.07-inch maximum clear opening before being introduced into the grout pump.

**Replace section 49-3.02B(8) with:**

01-20-12

**49-3.02B(8) Spacers**

Spacers must comply with section 52-1.03D, except you may use plastic spacers.

Plastic spacers must:

1. Comply with sections 3.4 and 3.5 of the Concrete Reinforcing Steel Institute's *Manual of Standard Practice*
2. Have at least 25 percent of their gross plane area perforated to compensate for the difference in the coefficient of thermal expansion between the plastic and concrete
3. Be of commercial quality

**Add to section 49-3.02C(4):**

01-20-12

Unless otherwise shown, the bar reinforcing steel cage must have at least 3 inches of clear cover measured from the outside of the cage to the sides of the hole or casing.

Place spacers at least 5 inches clear from any inspection tubes.

Place plastic spacers around the circumference of the cage and at intervals along the length of the cage, as recommended by the manufacturer.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 50 PRESTRESSING CONCRETE

04-19-13

**Replace "sets" at each occurrence in the 2nd and 3rd paragraphs of section 50-1.01C(3) with:**

04-19-13

copies

**Replace the 3rd paragraph of section 50-1.01D(2) with:**

10-19-12

The Department may verify the prestressing force using the Department's load cells.

**Replace the 6th paragraph of section 50-1.01D(3) with:**

01-18-13

Jacking equipment must be calibrated as follows:

1. Each jack and its gage must be calibrated as a unit.

2. Each jack used to tension prestressing steel permanently anchored at 25 percent or more of its specified minimum ultimate tensile strength must be calibrated by METS within 1 year of use and after each repair. You must:
   2.1. Schedule the calibration of the jacking equipment with METS
   2.2. Verify that the jack and supporting systems are complete, with proper components, and are in good operating condition
   2.3. Mechanically calibrate the gages with a dead weight tester or other authorized means before calibration of the jacking equipment by METS
   2.4. Provide enough labor, equipment, and material to (1) install and support the jacking and calibration equipment and (2) remove the equipment after the calibration is complete
   2.5. Plot the calibration results
3. Each jack used to tension prestressing steel permanently anchored at less than 25 percent of its specified minimum ultimate tensile strength must be calibrated by an authorized laboratory within 6 months of use and after each repair.

**Replace "diameter" in item 9 in the list in the 1st paragraph of section 50-1.02D with:**

04-20-12

cross-sectional area

**Add to section 50-1.02:**

09-16-11

**50-1.02G Sheathing**

Sheathing for debonding prestressing strand must:

1. Be split or un-split flexible polymer plastic tubing
2. Have a minimum wall thickness of 0.025 inch
3. Have an inside diameter exceeding the maximum outside diameter of the strand by 0.025 to 0.14 inch

Split sheathing must overlap at least 3/8 inch.

Waterproofing tape used to seal the ends of the sheathing must be flexible adhesive tape.

The sheathing and waterproof tape must not react with the concrete, coating, or steel.

**Add to section 50-1.03B(1):**

01-20-12

After seating, the maximum tensile stress in the prestressing steel must not exceed 75 percent of the minimum ultimate tensile strength shown.

**Add to section 50-1.03B(2):**

09-16-11

**50-1.03B(2)(e) Debonding Prestressing Strands**

Where shown, debond prestressing strands by encasing the strands in plastic sheathing along the entire length shown and sealing the ends of the sheathing with waterproof tape.

Distribute the debonded strands symmetrically about the vertical centerline of the girder. The debonded lengths of pairs of strands must be equal.

Do not terminate debonding at any one cross section of the member for more than 40 percent of the debonded strands or 4 strands, whichever is greater.

Thoroughly seal the ends with waterproof tape to prevent the intrusion of water or cement paste before placing the concrete.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 51 CONCRETE STRUCTURES

04-19-13

**Replace the paragraphs of section 51-1.01A with:**

10-19-12

Section 51-1 includes general specifications for constructing concrete structures.

Earthwork for the following concrete structures must comply with section 19-3:

1. Sound wall footings
2. Sound wall pile caps
3. Culverts
4. Barrier slabs
5. Junction structures
6. Minor structures
7. Pipe culvert headwalls, endwalls, and wingwalls for a pipe with a diameter of 5 feet or greater

Falsework must comply with section 48-2.

Joints must comply with section 51-2.

Elastomeric bearing pads must comply with section 51-3.

Reinforcement for the following concrete structures must comply with section 52:

1. Sound wall footings
2. Sound wall pile caps
3. Barrier slabs
4. Junction structures
5. Minor structures
6. PC concrete members

You may use RSC for a concrete structure only where the specifications allow the use of RSC.

**Replace the heading of section 51-1.01D(4) with:**

04-19-13

**Testing Concrete Surfaces**

**Add to section 51-1.01D(4)(a):**

04-19-13

The Engineer tests POC deck surfaces for smoothness and crack intensity.

**Add to the list in the 1st paragraph of section 51-1.01D(4)(b):**

04-19-13

3. Completed deck surfaces, including ramps and landings of POCs

**Replace the 4th paragraph in section 51-1.01D(4)(b) with:**

04-19-13

Except for POCs, surface smoothness is tested using a bridge profilograph under California Test 547. Two profiles are obtained in each lane approximately 3 feet from the lane lines and 1 profile is obtained in

each shoulder approximately 3 feet from the curb or rail face. Profiles are taken parallel to the direction of traffic.

**Add between the 5th and 6th paragraphs of section 51-1.01D(4)(b):**

04-19-13

POC deck surfaces must comply with the following smoothness requirements:

1. Surfaces between grade changes must not vary more than 0.02 foot from the lower edge of a 12-foot-long straightedge placed parallel to the centerline of the POC
2. Surface must not vary more than 0.01 foot from the lower edge of a 6-foot-long straightedge placed perpendicular to the centerline of the POC

**Add to section 51-1.01D(4)(d):**

04-19-13

The Engineer measures crack intensity of POC deck surfaces after curing, before prestressing, and before falsework release. Clean the surface for the Engineer to measure surface crack intensity.

In any 100 sq ft portion of a new POC deck surface, if there are more than 10 feet of cracks having a width at any point of over 0.02 inch, treat the deck with methacrylate resin under section 15-5.05. Treat the entire deck width between the curbs to 5 feet beyond where the furthest continuous crack emanating from the 100 sq ft section is 0.02 inch wide. Treat the deck surface before grinding.

**Add to section 51-1.03C(2)(c)(i):**

04-20-12

Permanent steel deck forms are only allowed where shown or if specified as an option in the special provisions.

**Replace the 3rd paragraph of section 51-1.03C(2)(c)(ii) with:**

04-20-12

Compute the physical design properties under AISI's *North American Specification for the Design of Cold-Formed Steel Structural Members*.

**Replace the 8th paragraph of section 51-1.03D(1) with:**

10-19-12

Except for concrete placed as pipe culvert headwalls and endwalls, slope paving and aprons, and concrete placed under water, consolidate concrete using high-frequency internal vibrators within 15 minutes of placing concrete in the forms. Do not attach vibrators to or hold them against forms or reinforcing steel. Do not displace reinforcement, ducts, or prestressing steel during vibrating.

**Add to section 51-1.03E(5):**

08-05-11

Drill the holes without damaging the adjacent concrete. If reinforcement is encountered during drilling before the specified depth is attained, notify the Engineer. Unless coring through the reinforcement is authorized, drill a new hole adjacent to the rejected hole to the depth shown.

**Add to section 51-1.03F(5)(a):**

04-19-13

For approach slabs, sleeper slabs, and other roadway surfaces of concrete structures, texture the roadway surface as specified for bridge deck surfaces in section 51-1.03F(5)(b).

**Replace "Reserved" in section 51-1.03F(5)(b) with:**

04-20-12

**51-1.03F(5)(b)(i) General**

Except for bridge widenings, texture the bridge deck surfaces longitudinally by grinding and grooving or by longitudinal tining.

10-19-12

For bridge widenings, texture the deck surface longitudinally by longitudinal tining.

04-20-12

In freeze-thaw areas, do not texture PCC surfaces of bridge decks.

**51-1.03F(5)(b)(ii) Grinding and Grooving**

When texturing the deck surface by grinding and grooving, place a 1/4 inch of sacrificial concrete cover on the bridge deck above the finished grade shown. Place items to be embedded in the concrete based on the final profile grade elevations shown. Construct joint seals after completing the grinding and grooving.

Before grinding and grooving, deck surfaces must comply with the smoothness and deck crack treatment requirements.

Grind and groove the deck surface as follows:

1. Grind the surface to within 18 inches of the toe of the barrier under section 42-3. Grinding must not reduce the concrete cover on reinforcing steel to less than 1-3/4 inches.
2. Groove the ground surfaces longitudinally under section 42-2. The grooves must be parallel to the centerline.

**51-1.03F(5)(b)(iii) Longitudinal Tining**

When texturing the deck surface by longitudinal tining, perform initial texturing with a burlap drag or broom device that produces striations parallel to the centerline. Perform final texturing with spring steel tines that produce grooves parallel with the centerline.

The tines must:

1. Be rectangular in cross section
2. Be from 3/32 to 1/8 inch wide on 3/4-inch centers
3. Have enough length, thickness, and resilience to form grooves approximately 3/16 inch deep

Construct grooves to within 6 inches of the layout line of the concrete barrier toe. Grooves must be from 1/8 to 3/16 inch deep and 3/16 inch wide after concrete has hardened.

For irregular areas and areas inaccessible to the grooving machine, you may hand construct grooves. Hand-constructed grooves must comply with the specifications for machine-constructed grooves.

Tining must not cause tearing of the deck surface or visible separation of coarse aggregate at the surface.

**Add to section 51-1.03F:**

04-19-13

**51-1.03F(6) Finishing Pedestrian Overcrossing Surfaces**

Construct deck surfaces, including ramps and landings of POCs to the grade and cross section shown. Surfaces must comply with the specified smoothness, surface texture, and surface crack requirements.

The Engineer sets deck elevation control points for your use in establishing the grade and cross section of the deck surface. The grade established by the deck elevation control points includes all camber allowances. Except for landings, elevation control points include the beginning and end of the ramp and will not be closer together than approximately 8 feet longitudinally and 4 feet transversely to the POC centerline. Landing elevation control points are at the beginning and the end of the landing.

Broom finish the deck surfaces of POCs. Apply the broom finish perpendicular to the path of travel. You may apply water mist to the surface immediately before brooming.

Clean any discolored concrete by abrasive blast cleaning or other authorized methods.

**Replace the paragraphs of section 51-1.04 with:**

10-19-12

If concrete involved in bridge work is not designated by type and is not otherwise paid for under a separate bid item, the concrete is paid for as structural concrete, bridge.

The payment quantity for structural concrete includes the volume in the concrete occupied by bar reinforcing steel, structural steel, prestressing steel materials, and piling.

The payment quantity for seal course concrete is the actual volume of seal course concrete placed except the payment quantity must not exceed the volume of concrete contained between vertical planes 1 foot outside the neat lines of the seal course shown. The Department does not adjust the unit price for an increase or decrease in the seal course concrete quantity.

Structural concrete for pier columns is measured as follows:

1. Horizontal limits are vertical planes at the neat lines of the pier column shown.
2. Bottom limit is the bottom of the foundation excavation in the completed work.
3. Upper limit is the top of the pier column concrete shown.

The payment quantity for drill and bond dowel is determined from the number and depths of the holes shown.

**Replace section 51-2.01B(2) with:**

04-19-13

**51-2.01B(2) Reserved**

04-19-13

**Delete the 4th paragraph of section 51-2.01C.**

**Replace "SSPC-QP 3" in the 1st paragraph of section 51-2.02A(2) with:**

10-19-12

AISC-420-10/SSPC-QP 3

**Replace the 2nd and 3rd paragraphs of section 51-2.02B(3)(b) with:**

04-20-12

Concrete saws for cutting grooves in the concrete must have diamond blades with a minimum thickness of 3/16 inch. Cut both sides of the groove simultaneously for a minimum 1st pass depth of 2 inches. The completed groove must have:

1. Top width within 1/8 inch of the width shown or ordered
2. Bottom width not varying from the top width by more than 1/16 inch for each 2 inches of depth
3. Uniform width and depth

Cutting grooves in existing decks includes cutting any conflicting reinforcing steel.

**Replace "sets" in the 1st and 2nd paragraphs of section 51-2.02D(1)(c)(ii) with:**

04-19-13

copies

**Replace "set" in the 7th paragraph of section 51-2.02D(1)(c)(ii) with:**

04-19-13

copy

**Add to the 1st paragraph of section 51-2.02D(3):**

04-19-13

POC deck surfaces must comply with section 51-1.03F(6) before placing and anchoring joint seal assemblies.

**Replace "sets" in the 2nd paragraph of section 51-2.02E(1)(c) with:**

04-19-13

copies

**Replace "set" in the 6th paragraph of section 51-2.02E(1)(c) with:**

04-19-13

copy

**Replace the 2nd paragraph of section 51-2.02E(1)(e) with:**

08-05-11

Except for components in contact with the tires, the design loading must be the AASHTO LRFD Bridge Design Specifications Design Truck with 100 percent dynamic load allowance. Each component in contact with the tires must support a minimum of 80 percent of the AASHTO LRFD Bridge Design Specifications Design Truck with 100 percent dynamic load allowance. The tire contact area must be 10 inches measured normal to the longitudinal assembly axis by 20 inches wide. The assembly must provide a smooth-riding joint without slapping of components or tire rumble.

**Replace "sets" in the 1st and 2nd paragraphs of section 51-2.02F(1)(c) with:**

04-19-13

copies

**Add between the 1st and 2nd paragraphs of section 51-4.01A:**

10-19-12

Prestressing concrete members must comply with section 50.

04-20-12

**Delete the 2nd paragraph of section 51-4.01A.**

**Replace the 3rd paragraph of section 51-4.01C(2) with:**

04-20-12

For segmental or spliced-girder construction, shop drawings must include the following additional information:

1. Details showing construction joints or closure joints
2. Arrangement of bar reinforcing steel, prestressing tendons, and pressure-grouting pipe
3. Materials and methods for making closures
4. Construction joint keys and surface treatment
5. Other requested information

For segmental girder construction, shop drawings must include concrete form and casting details.

**Replace "sets" in the 1st paragraph of section 51-4.01C(3) with:**

04-19-13

copies

10-19-12

**Delete the 1st and 2nd paragraphs of section 51-4.02A.**

**Replace the 3rd paragraph of section 51-4.02B(2) with:**

04-20-12

For segmental or spliced-girder construction, materials for construction joints or closure joints at exterior girders must match the color and texture of the adjoining concrete.

**Add to section 51-4.02B(2):**

04-20-12

At spliced-girder closure joints:

1. If shear keys are not shown, the vertical surfaces of the girder segment ends must be given a coarse texture as specified for the top surface of PC members.
2. Post-tensioning ducts must extend out of the vertical surface of the girder segment closure end sufficiently to facilitate splicing of the duct.

For spliced girders, pretension strand extending from the closure end of the girder segment to be embedded in the closure joint must be free of mortar, oil, dirt, excessive mill scale and scabby rust, and other coatings that would destroy or reduce the bond.

**Add to section 51-4.03B:**

04-20-12

The specifications for prestressing force distribution and sequencing of stressing in the post-tensioning activity in 50-1.03B(2)(a) do not apply if post-tensioning of spliced girders before starting deck construction is described. The composite deck-girder structure must be post-tensioned in a subsequent stage.

Temporary spliced-girder supports must comply with the specifications for falsework in section 48-2.

Before post-tensioning of spliced girders, remove the forms at CIP concrete closures and intermediate diaphragms to allow inspection for concrete consolidation.

**Add between the 1st and 2nd paragraphs of section 51-7.01A:**

10-19-12

Minor structures include:

1. Pipe culvert headwalls and endwalls for a pipe with a diameter less than 5 feet
2. Drainage inlets
3. Other structures described as minor structures

10-19-12

**Delete the 4th paragraph of section 51-7.01A.**

**Replace the 1st and 2nd paragraphs of section 51-7.01B with:**

10-19-12

Concrete must comply with the specifications for minor concrete.

**Add to section 51:**

10-19-12

**51-8–51-15 RESERVED**

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 52 REINFORCEMENT

01-18-13

**Add to section 52-1.01A:**

07-20-12

Splicing of bar reinforcement must comply with section 52-6.

**Replace the 1st and 2nd paragraphs of section 52-1.02B with:**

10-19-12

Reinforcing bars must be deformed bars complying with ASTM A 706/A 706M, Grade 60, except you may use:

1. Deformed bars complying with ASTM A 615/A 615M, Grade 60, in:
   - 1.1. Junction structures
   - 1.2. Sign and signal foundations
   - 1.3. Minor structures
   - 1.4. Concrete crib members
   - 1.5. Mechanically-stabilized-embankment concrete panels
   - 1.6. Masonry block sound walls
2. Deformed or plain bars complying with ASTM A 615/A 615M, Grade 40 or 60, in:
   - 2.1. Slope and channel paving
   - 2.2. Concrete barriers Type 50 and 60
3. Plain bars for spiral or hoop reinforcement in structures and concrete piles

**Add to the list in the 3rd paragraph of section 52-1.02B:**

04-20-12

9. Shear reinforcement stirrups in PC girders

**Replace the 6th paragraph of section 52-6.01D(4)(a) with:**

01-18-13

Before performing service splice or ultimate butt splice testing, perform total slip testing on the service splice or ultimate butt splice test samples under section 52-6.01D(4)(b).

**Replace section 52-6.02D with:**

10-21-11

**52-6.02D Ultimate Butt Splice Requirements**

When tested under California Test 670, ultimate butt splice test samples must demonstrate necking as either of the following:

1. For "Necking (Option I)," the test sample must rupture in the reinforcing bar outside of the affected zone and show visible necking.
2. For "Necking (Option II)," the largest measured strain must be at least:
   2.1. Six percent for no. 11 and larger bars
   2.2. Nine percent for no. 10 and smaller bars

**Replace the 2nd and 3rd paragraphs of section 52-6.03B with:**

01-18-13

Do not splice the following by lapping:

1. No. 14 bars
2. No. 18 bars
3. Hoops
4. Reinforcing bars where you cannot provide a minimum clear distance of 2 inches between the splice and the nearest adjacent bar

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 54 WATERPROOFING

04-20-12

**Add between "be" and "3/8 inch" in the 3rd paragraph of section 54-4.02C:**

04-20-12

at least

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 55 STEEL STRUCTURES

04-19-13

**Replace "sets" at each occurrence in the 1st paragraph of section 55-1.01C(2) with:**

04-19-13

copies

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 56 SIGNS

04-19-13

07-20-12

**Delete item 2 in the list in the 4th paragraph of section 56-3.01A.**

**Replace "sets" in the 1st paragraph of section 56-3.01C(2) with:**

04-19-13

copies

07-20-12

**Delete the 7th paragraph of section 56-3.02K(2).**

07-20-12

**Delete item 4 in the list in the 1st paragraph of section 56-3.02M(1).**

**Replace item 5 in the list in the 1st paragraph of section 56-3.02M(1) with:**

04-19-13

Tubular

**Add between the 1st and 2nd paragraphs of section 56-3.02M(1):**

04-19-13

Clean and paint all ferrous metal parts of tubular sign structures after galvanizing, including the areas to be covered by sign panels. Do not paint sign structures other than tubular type unless specified in the special provisions.

**Replace the headings and paragraphs in section 56-3.02M(3) with:**

04-19-13

Where specified, clean and paint sign structures under section 59-5.

07-20-12

**Delete "and box beam-closed truss" in the 2nd paragraph of section 56-3.02M(3)(a).**

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 57 WOOD AND PLASTIC LUMBER STRUCTURES

04-19-13

**Replace "51-2.01C(3)" in the 1st paragraph of section 57-2.01C(3)(a) with:**

10-19-12

57-2.01C(3)

**Replace "sets" at each occurrence in the 1st paragraph of section 57-3.01C with:**

04-19-13

copies

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 58 SOUND WALLS

04-19-13

10-19-12

**Delete the 3rd paragraph of section 58-1.01.**

**Replace the 1st paragraph of section 58-2.01D(5)(a) with:**

08-05-11

You must employ a special inspector and an authorized laboratory to perform Level 1 inspections and structural tests of masonry to verify the masonry construction complies with section 1704, "Special Inspections," and section 2105, "Quality Assurance," of the 2007 CBC.

10-19-12

**Delete the 1st paragraph of section 58-2.02F.**

**Replace "sets" at each occurrence in the 1st paragraph of section 58-4.01C with:**

04-19-13

copies

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 59 PAINTING

04-19-13

**Replace "SSPC-SP 10" at each occurrence in section 59 with:**

10-19-12

SSPC-SP 10/NACE no. 2

**Replace "SSPC-SP 6" at each occurrence in section 59 with:**

10-19-12

SSPC-SP 6/NACE no. 3

**Replace "SSPC-CS 23.00" at each occurrence in section 59 with:**

10-19-12

SSPC-CS 23.00/AWS C 2.23M/NACE no. 12

**Replace "SSPC-QP 3 or AISC SPE, Certification P-1 Enclosed" in item 3 in the list in the 1st paragraph of section 59-2.01D(1) with:**

10-19-12

AISC-420-10/SSPC-QP 3 (Enclosed Shop)

**Replace the paragraphs in section 59-2.03A with:**

10-19-12

Clean and paint all exposed structural steel and other metal surfaces.

You must provide enclosures for cleaning and painting structural steel. Cleaning and painting of new structural steel must be performed in an Enclosed Shop as defined in AISC-420-10/SSPC-QP 3. Maintain atmospheric conditions inside enclosures within specified limits.

Except for blast cleaning within closed buildings, perform blast cleaning and painting during daylight hours.

**Replace item 1 in the list in the 2nd paragraph of section 59-2.03C(1) with:**

10-19-12

1. Apply a stripe coat of undercoat paint on all edges, corners, seams, crevices, interior angles, junctions of joining members, weld lines, and similar surface irregularities. The stripe coat must completely hide the surface being covered. If spot blast cleaning portions of the bridge, apply the stripe coat of undercoat paint before each undercoat and follow with the undercoat as soon as practical. If removing all existing paint from the bridge, apply the undercoat first as soon as practical and follow with the stripe coat of undercoat paint for each undercoat.

**Replace the heading of section 59-2.03C(2) with:**

04-19-13

**Zinc Coating System**

**Add to section 59-2.03C(2)(a):**

04-19-13

Coatings for new structural steel and connections between new and existing structural steel must comply with the requirements shown in the following table:

**Zinc Coating System**

| Description | Coating | Dry film thickness (mils) |
|---|---|---|
| All new surfaces: | | |
| Undercoat | Inorganic zinc primer, AASHTO M 300 Type I or II | 4–8 |
| Finish coat[a] | Exterior grade latex[b], 2 coats | 2 minimum each coat, 4–8 total |
| Total thickness, all coats | | 8–14 |
| Connections to existing structural steel:[c] | | |
| Undercoat | Inorganic zinc primer, AASHTO M 300 Type I or II | 4–8 |
| Finish coat[a] | Exterior grade latex[b], 2 coats | 2 minimum each coat, 4–8 total |
| Total thickness, all coats | | 8–14 |

[a]If no finish coats are described, a final coat of inorganic zinc primer is required.
[b]Exterior grade latex must comply with section 91-2.02 unless otherwise specified.
[c]Includes the following locations:

1. New and existing contact surfaces
2. Existing member surfaces under new HS bolt heads, nuts, or washers
3. Bare surfaces of existing steel after trimming, cutting, drilling, or reaming
4. Areas within a 4-inch radius from the point of application of heat for welding or flame cutting

**Add to section 59-2.03C:**

04-19-13

**59-2.03C(3) Moisture-Cured Polyurethane Coating System**

Reserved

**59-2.03C(4) State Specification Paint Waterborne Coating System**

**59-2.03C(4)(a) General**

The State Specification PWB coating system for existing structural steel must comply with the requirements shown in the following table:

**State Specification PWB Coating System**

| Surface | Description | State Specification PWB Coating | Dry film thickness (mils) |
|---|---|---|---|
| Surfaces cleaned to bare metal[a]: | 1st undercoat | 145 | 2–3 |
| | 2nd undercoat | 146 | 2–3 |
| | 1st finish coat | 171 | 1.5–3 |
| | 2nd finish coat | 172 | 1.5–3 |
| | Total thickness, all coats | -- | 7–12 |
| Existing painted surfaces to be topcoated: | Undercoat | 146 | 2–3 |
| | 1st finish coat | 171 | 1.5–3 |
| | 2nd finish coat | 172 | 1.5–3 |
| | Total thickness, new coats | -- | 5–9 |

[a]Includes locations of spot blast cleaning

**59-2.03C(4)(b) Finish Coats**

Pressure rinse undercoated surfaces to receive finish coats. Perform pressure rinsing no sooner than 72 hours after the final application of undercoat.

The 1st finish coat must be applied within 48 hours of pressure rinsing.

Apply the 1st finish coat in 2 applications. The 1st application consists of a spray-applied mist application. Apply the 2nd application after the mist application has dried to a set-to-touch condition as determined using the procedure in section 7 of ASTM D 1640.

Apply the 2nd finish coat after the 1st finish coat has dried 12 hours unless authorized. You may apply the 2nd finish coat in a single application.

**Add to section 59-5.01:**

04-19-13

Where specified, prepare and paint sign structures under sections 59-2 and 59-3.

Instead of submitting proof of the certification complying with SSPC-QP 1, you may submit documentation with the painting quality work plan showing compliance with the requirements in section 3 of SSPC-QP 1.

Instead of submitting proof of the certification complying with SSPC-QP 2, you may submit documentation with the painting quality work plan showing compliance with the requirements in sections 4.2 through 4.4 of SSPC-QP 2, Category A.

Instead of submitting proof of the certification complying with AISC-420-10/SSPC-QP 3 (Enclosed Shop), you may submit documentation with the painting quality work plan showing compliance with the requirements in sections 5 through 18 of AISC-420-10/SSPC-QP3.

**Replace the paragraphs of section 59-5.03 with:**

04-19-13

**59-5.03A General**

You may prepare and paint sign structures before or after erection. After erection, repair damaged paint to the satisfaction of the Engineer.

The total dry film thickness of finish coats on contact surfaces of galvanized HS bolted connections (1) must be from 1 to 4 mils and (2) may be applied in 1 application.

**59-5.03B Undercoating of Ungalvanized Surfaces**

Blast-cleaned surfaces must receive a single undercoat consisting of an inorganic zinc coating as specified in AASHTO M 300, Type I or Type II, except:

1. The first 2 sentences of section 5.6 do not apply
2. Section 5.6.1 does not apply

If you propose to use a coating that is not on the Authorized Material List, submit the required documentation specified in section 5.6 of AASHTO M 300. Allow 30 days for the Engineer's review.

**59-5.03C Testing of Inorganic Zinc Coating**

Perform adhesion and hardness testing no sooner than 72 hours after application of the single undercoat of inorganic zinc coating.

**59-5.03D Finish Coating**

The exposed area of inorganic zinc coating must receive a minimum of 2 finish coats of exterior grade latex paint.

The 1st finish coat color must match no. 24558 of FED-STD-595. The 2nd finish coat color must match no. 24491 of FED-STD-595. The total dry film thickness of the applications of the 2nd finish coat must be not less than 2 mils.

**Replace "solider" in the 5th paragraph of section 59-9.03 with:**

04-19-13

soldier

^^^

# 64 PLASTIC PIPE

10-19-12

**Replace the 2nd paragraph of section 64-1.01A with:**

10-19-12

Plastic pipe includes all necessary elbows, wyes, tees, other branches, fittings, coupling systems, concrete collars or tees, and reinforcement.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 65 CONCRETE PIPE

10-19-12

**Replace the 2nd paragraph of section 65-1.01 with:**

10-19-12

Concrete pipe includes all necessary elbows, wyes, tees, other branches, concrete collars or tees, and reinforcement.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 70 MISCELLANEOUS DRAINAGE FACILITIES

01-18-13

**Replace section 70-5.02A(2) with:**

01-20-12

**70-5.02A(2) Plastic Flared End Sections**

Plastic flared end sections must comply with ASTM D 3350.

**Replace the 2nd, 3rd, and 4th paragraphs of section 70-7.02B with:**

01-18-13

Before shipping, the exterior surfaces of the casing must be cleaned, primed, and coated to comply with ANSI/AWWA C213 or ANSI/AWWA C214.

Wrapping tape for repairing damaged coating and wrapping field joints and fittings must be a pressure-sensitive PVC or polyethylene tape with a minimum thickness of 50 mils, 2 inches wide.

**Add to section 70-7.03:**

01-18-13

Repair damaged coating on the casing and wrap field joints and fittings with wrapping tape as follows:

1. Before wrapping, thoroughly clean and prime the pipe casing, joints, and fittings under the tape manufacturer's instructions.
2. Wrap the tape tightly with 1/2 uniform lap, free from wrinkles and voids to provide not less than a 100-mil thickness.
3. Wrapping at joints must extend at least 6 inches over adjacent pipe casing coverings. Apply tension such that the tape will conform closely to contours of the joint.

^^^^^^^^^^^^^^^^^^^

# DIVISION VIII MISCELLANEOUS CONSTRUCTION

## 72 SLOPE PROTECTION

01-18-13

**Replace the row under "Class" in the table in the 1st paragraph of section 72-3.02B with:**

01-20-12

| | | | | |
|---|---|---|---|---|
| 1/2 T | 1/4 T | Light | Facing | Cobble |

**Replace the row under "Rock class" in the table in the 2nd paragraph of section 72-3.03E with:**

01-20-12

| | | | | |
|---|---|---|---|---|
| 1/2 T | 1/4 T | Light | Facing | Cobble |

**Add to section 72-11.01B:**

01-18-13

Expanded polystyrene and premolded expansion joint filler must comply with section 51-2.

**Replace the 1st paragraph of section 72-11.01C(2) with:**

01-18-13

Construct and finish minor concrete slope paving under section 51-1.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 74 PUMPING EQUIPMENT AND CONTROLS

04-19-13

**Replace the 1st paragraph of section 74-1.01C(3) with:**

04-19-13

Submit at least 5 copies of product data to OSD, Documents Unit. Each copy must be bound together and include an index stating equipment names, manufacturers, and model numbers. Two copies will be returned. Notify the Engineer of the submittal. Include in the notification the date and contents of the submittal.

**Replace the 1st sentence of the 1st paragraph in section 74-2.01D(2) with:**

01-20-12

Drainage pumps must be factory certified under ANSI/HI 14.6.

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 75 MISCELLANEOUS METAL

04-19-13

**Add between 2nd and 3rd paragraphs of section 75-1.03A:**

04-19-13

Fabricate expansion joint armor from steel plates, angles, or other structural shapes. Shape the armor to the section of the concrete deck and match-mark it in the shop. Bevel the unbolted end of the checkered

plate at 45 degrees. Straighten warped sections of expansion joint armor before placing. Secure the expansion joint armor in the correct position during concrete placement.

**Replace "SSPC-QP 3" in the 3rd paragraph of section 75-1.03E(4) with:**

10-19-12

AISC-420-10/SSPC-QP3

**^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^**

**Replace section 78 with:**

07-20-12

# 78 INCIDENTAL CONSTRUCTION

07-20-12

## 78-1 GENERAL

Section 78 includes specifications for incidental bid items that are not closely associated with other sections.

## 78-2–78-50 RESERVED

**^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^**

# 80 FENCES

10-19-12

**Add to section 80-2.02D:**

10-19-12

Vertical stays must:

1. Comply with ASTM A641
2. Be 12-1/2 gage
3. Have a Class 3 zinc coating

**Replace item 1 in the list in section 80-2.02E with:**

10-19-12

Comply with ASTM A 116, Type Z, Grade 60, Class 1

**Add after "galvanized wire" in the 1st paragraph of section 80-2.02F:**

10-19-12

complying with ASTM A 641

**Replace the 3rd and 4th paragraphs of section 80-2.02F with:**

10-19-12

Each staple used to fasten barbed wire and wire mesh fabric to wood posts must:

1. Comply with ASTM F 1667
2. Be at least 1-3/4 inches long
3. Be manufactured from 9-gage galvanized wire

Wire ties used to fasten barbed wire and wire mesh to metal posts must be at least 11-gage galvanized wire complying with ASTM F 626. Clips and hog rings used for metal posts must be at least 9-gage galvanized wire complying with ASTM F 626.

**Replace the 8th through 14th paragraphs of section 80-2.03 with:**

10-19-12

Attach the wire mesh and barbed wire to each post.

Securely fasten tension wires to wood posts. Make a single or double loop around each post at each attachment point and staple the wire to the post. Use wire ties, hog rings, or wire clips to fasten the wires to the metal posts.

Connect each wood brace to its adjacent post with a 3/8 by 4-inch steel dowel. Twist the tension wires until the installation is rigid.

Stretch barbed wire and wire mesh fabric and fasten to each wood or steel end, corner, or gate post. Apply tension according to the manufacturer's instructions using a mechanical stretcher or other device designed for such use. If no tension is specified by the manufacturer, use 250 pounds for the required tension. Evenly distribute the pull over the longitudinal wires in the wire mesh such that no more than 50 percent of the original depth of the tension curves is removed. Do not use a motorized vehicle, truck, or tractor to stretch the wire.

Attach barbed wire and wire mesh fabric to the private-property side of posts. On curved alignments, place the wire mesh and barbed wire on the face of the post against which the normal pull of the wire mesh and wire will be exerted. Terminate the wire mesh and barbed wire at each end, corner, pull, and gate post in the new fence line. Attach wire mesh and barbed wire to each wood or steel end, corner, pull, or gate post by wrapping each horizontal strand around the post and tying it back on itself with at least 4 tightly-wound wraps.

At line posts, fasten the wire mesh to the post at the top and bottom and at intermediate points not exceeding 10 inches apart. Fasten each line of barbed wire to each line post. Use wire ties or clips to fasten the wires to metal posts under the post manufacturer's instructions. Drive staples crosswise with the grain of the wood and pointed slightly downward. Drive staples just short of actual contact with the wires to allow free longitudinal movement of those wires and to prevent damage to the wire's protective coating. Secure all wires to posts to maintain horizontal alignment.

Splices in barbed wire and wire mesh are allowed provided there are no more than 2 splices per 50 feet of fence. Use commercially-available galvanized mechanical wire splices or a wire splice created by tying off wire. Install mechanical wire splices with a tool designed for that purpose under the manufacturer's instructions. Tie off the wire as follows:

1. Carry the ends of each wire 3 inches past the tied-off knot location and wrap around the wire for at least 6 turns in opposite directions.
2. Remove the splice tool and close the space by pulling the end of the wires together.
3. Cut the unused ends of the wire close and neat.

**Add to "≤ 6" in the table in the 4th paragraph of section 80-3.02B:**

10-19-12

feet

^^^

# DIVISION IX TRAFFIC CONTROL FACILITIES

## 83 RAILINGS AND BARRIERS

10-19-12

**Replace "80-2.02" in the 2nd paragraph of section 83-1.02E with:**

10-19-12

80-3.02B

**Add to section 83-2.02D(1):**

10-21-11

For a concrete barrier transition:

1. Remove portions of the existing concrete barrier where shown under section 15-3
2. Roughen the contact surface of the existing concrete barrier
3. Drill and bond dowels into the existing concrete barrier under section 51-1

**Add to section 83-2.02:**

10-19-12

**83-2.02H–83-2.02M Reserved**

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

## 84 TRAFFIC STRIPES AND PAVEMENT MARKINGS

01-20-12

**Replace the 1st paragraph in section 84-2.04 with:**

01-20-12

A double extruded thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 2 traffic stripes.

A double sprayable thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 1 traffic stripe.

**Add to section 84:**

01-20-12

**84-6 THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS WITH ENHANCED WET NIGHT VISIBILITY**

Reserved

**84-7–84-10 RESERVED**

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

# 86 ELECTRICAL SYSTEMS

10-19-12

**Replace section 86-2.06 with:**

01-20-12

## 86-2.06 PULL BOXES

### 86-2.06A General

#### 86-2.06A(1) Cover Marking

Marking must be clearly defined, uniform in depth, and parallel to either the long or short sides of the cover.

Marking letters must be 1 to 3 inches high.

Before galvanizing steel or cast iron cover, apply marking by one of the following methods:

1. Use cast iron strip at least 1/4 inch thick with letters raised a minimum of 1/16 inch. Fasten strip to cover with 1/4-inch flathead stainless steel machine bolts and nuts. Peen bolts after tightening.
2. Use sheet steel strip at least 0.027 inch thick with letters raised a minimum of 1/16 inch. Fasten strip to cover by spot welding, tack welding, or brazing, with 1/4-inch stainless steel rivets or 1/4-inch roundhead stainless steel machine bolts and nuts. Peen bolts after tightening.
3. Bead weld the letters on cover such that the letters are raised a minimum of 3/32 inch.

#### 86-2.06A(2) Installation and Use

Space pull boxes no more than 200 feet apart. You may install additional pull boxes to facilitate the work.

You may use a larger standard size pull box than that shown on the plans or specified.

A pull box in ground or sidewalk area must be installed as follows:

1. Embed bottom of the pull box in crushed rock.
2. Place a layer of roofing paper on the crushed rock.
3. Place grout over the layer of roofing paper. Grout must be 0.50 to 1 inch thick and sloped toward the drain hole.
4. Make a 1-inch drain hole in the center of the pull box through the grout and roofing paper.
5. Place grout between the pull box and the pull box extension, and around conduits.

The top of the pull box must be flush with the surrounding grade or the top of an adjacent curb, except in unpaved areas where the pull box is not immediately adjacent to and protected by a concrete foundation, pole, or other protective construction. Place the pull box 1-1/4 inches above the surrounding grade. Where practical, place a pull box shown in the vicinity of curbs or adjacent to a standard on the side of the foundation facing away from traffic. If a pull box is installed in a sidewalk area, adjust the depth of the pull box so that the top of the pull box is flush with the sidewalk.

Reconstruct the sump of an existing pull box if disturbed by your activities. Remove old grout and replace with new if the sump was grouted.

### 86-2.06B Non-Traffic-Rated Pull Boxes

Reserved

### 86-2.06C Traffic Pull Boxes

Traffic pull box and cover must comply with ASTM C857, "Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures," for HS20-44 loading. You must be able to place the load anywhere on the box and cover for 1 minute without causing cracks or permanent deformations.

Frame must be anchored to the box with 1/4 by 2-1/4 inch concrete anchors. Four concrete anchors must be included for No. 3-1/2(T) pull box; one placed in each corner. Six concrete anchors must be included for No. 5(T) and No. 6(T) pull boxes; one placed in each corner and one near the middle of each of the longer sides.

Nuts must be zinc-plated carbon steel, vibration resistant, and have a wedge ramp at the root of the thread.

After installation of traffic pull box, install the steel cover and keep it bolted down when your activities are not in progress at the pull box. When the steel cover is placed for the final time, the cover and Z bar frame must be cleaned of debris and tightened securely.

Steel cover must be countersunk approximately 1/4 inch to accommodate the bolt head. When tightened, the bolt head must not exceed more than 1/8 inch above the top of the cover.

Concrete placed around and under traffic pull boxes must be minor concrete.

**Replace "project" in the 3rd paragraph of section 86-2.11A with:**

10-19-12

work

**Replace "Contract" in item 2 in the list in the 11th paragraph of section 86-2.11A with:**

10-19-12

work

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## 88 GEOSYNTHETICS

01-18-13

**Replace the row for hydraulic bursting strength in the table in the 2nd paragraph of section 88-1.02B with:**

10-19-12

| | | |
|---|---|---|
| Puncture strength, lb<br>min | ASTM D 6241 | 310 |
| Trapezoid tearing strength, lb<br>min | ASTM D 4533 | 56 |

**Replace the 3rd paragraph in section 88-1.02C with:**

10-19-12

Geocomposite wall drain must be from 0.25 to 2 inches thick.

**Replace the value for permittivity of woven fabric in the table in the 1st paragraph of section 88-1.02E with:**

01-20-12

0.05

**Replace the value for apparent size opening of nonwoven fabric in the table in the 1st paragraph of section 88-1.02E with:**

01-20-12

0.012

**Replace the table in the 1st paragraph of section 88-1.02G with:**

01-20-12

**Sediment Filter Bag**

| Property | Test | Values | |
|---|---|---|---|
| | | Woven | Nonwoven |
| Grab breaking load, lb, 1-inch grip min, in each direction | ASTM D 4632 | 200 | 250 |
| Apparent elongation, percent min, in each direction | ASTM D 4632 | 10 | 50 |
| Water flow rate, gal per minute/sq ft min and max average roll value | ASTM D 4491 | 100-200 | 75-200 |
| Permittivity, $sec^{-1}$ min | ASTM D 4491 | 1.0 | 1.0 |
| Apparent opening size, inches max average roll value | ASTM D 4751 | 0.023 | 0.012 |
| Ultraviolet resistance, % min retained grab breaking load, 500 hr. | ASTM D 4355 | 70 | 70 |

**Replace the table in the 1st paragraph of section 88-1.02H with:**

01-20-12

**Temporary Cover**

| Property | Test | Values | |
|---|---|---|---|
| | | Woven | Nonwoven |
| Grab breaking load, lb, 1-inch grip min, in each direction | ASTM D 4632 | 200 | 200 |
| Apparent elongation, percent min, in each direction | ASTM D 4632 | 15 | 50 |
| Water flow rate, gal per minute/sq ft min and max average roll value | ASTM D 4491 | 4-10 | 80-120 |
| Permittivity, $sec^{-1}$ min | ASTM D 4491 | 0.05 | 1.0 |
| Apparent opening size, inches max average roll value | ASTM D 4751 | 0.023 | 0.012 |
| Ultraviolet resistance, % min retained grab breaking load, 500 hr. | ASTM D 4355 | 70 | 70 |

**Replace section 88-1.02P with:**

01-18-13

**88-1.02P Biaxial Geogrid**

Geosynthetics used for biaxial geogrid must be a punched and drawn polypropylene material formed into an integrally formed biaxial grid. When tested under the referenced test methods, properties of biaxial geogrid must have the values shown in the following table:

**Biaxial Geogrid**

| Property | Test | Value |
|---|---|---|
| Aperture size, inch[a]<br>min and max | Calipered | 0.8-1.3 x 1.0-1.6 |
| Rib thickness, inch<br>min | Calipered | 0.04 |
| Junction thickness, inch<br>min | Calipered | 0.150 |
| Tensile strength, 2% strain, lb/ft[a]<br>min | ASTM D 6637 | 410 x 620 |
| Tensile strength at ultimate, lb/ft[a]<br>min | ASTM D 6637 | 1,310 x 1,970 |
| Ultraviolet resistance, percent<br>min retained tensile strength, 500 hours | ASTM D 4355 | 100 |
| Junction strength, lb/ft[a]<br>min | ASTM D 7737 | 1,220 x 1,830 |
| Overall flexural rigidity, mg-cm<br>min | ASTM D 7748 | 750,000 |
| Torsional rigidity at 20 cm-kg, mm-kg/deg[b]<br>min | GRI:GG9 | 0.65 |

[a]Machine direction x cross direction
[b]Geosynthetic Research Institute, Test Method GG9, *Torsional Behavior of Bidirectional Geogrids When Subjected to In-Plane Rotation*

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# 91 PAINT

10-19-12

**Add to section 91-2:**

10-19-12

**91-2.03 MOISTURE-CURED POLYURETHANE COATING**

Reserved

**Replace "saint" in the 1st paragraph of section 91-4.05 with:**

10-19-12

paint

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# 92 ASPHALTS

01-20-12

**Replace the row for dynamic shear for original binder in the table in the 1st paragraph of section 92-1.02B with:**

01-20-12

| | | | | | | |
|---|---|---|---|---|---|---|
| Dynamic shear, Test temperature at 10 rad/s, °C | T 315 | 58 | 64 | 64 | 64 | 70 |
| min G*/sin(delta), kPa | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| max G*/sin(delta), kPa | | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |